SAMPLE APPLICATION PACKAGE

a) Cover Letter
b) Authorization Letter
c) Wetland Impacts/ Minimization Information
d) Hydraulic Review Information
e) An application package addressing the following project components:

1) Utility Crossing	(fill out sections 10 A,B, &18, attach sketches)
2) Culvert Replacement	(fill out sections 10A,B,C, 13 & 14, attach sketches)
3) Stream Relocation	(fill out sections10A,B,C, & 15, attach sketches)
4) Stormwater Outlet Pipe	(fill out sections 10C & 10J, attach sketches)
5) Bridge Replacement	(fill out sections 10A,B,C, 13 & 14,attach sketches)
6) Wetland Fill	(fill out section 12, attach sketches)

Please note, this is a sample application package only. We have attempted to highlight those portions of projects that are most likely to be encountered when dealing with a public road project. Your specific project may require additional portions of the application form to be filled out. You only need to submit the applicable sections that apply to your project.

Click here for more information on-line.

Spalding Design

January 15, 2003

(Sample Application Cover Letter)

Michigan Department of Environmental Quality
Land and Water Management Division
Transportation and Flood Hazard Management Unit
P.O. Box 30458
Lansing, Michigan 48909-7958

SUBJECT: MDEQ-LWMD Application for Pratt Road

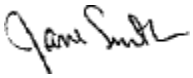
Enclosed is a permit application to remove and replace the existing culvert at the Pratt Road crossing of the Tibbetts Drain, and also the removal and replacement of the existing Pratt Road bridge crossing of the Bad Creek. Additional work includes the installation of a utility crossing under Tibbetts Drain, a stormwater outlet pipe at Watson Drain and 85 feet of relocation of the Watson Drain. Wetland fill in the amount of 89 cubic yards impacting 0.013 acres of wetland is proposed. The project is located in Sections 15, 16, 21, and 22, T6N, R3W, Riley Township, River County.

As this application is for a public transportation agency involving work on a public road, application fees are not required under the Memorandum of Understanding between the MDEQ and the transportation agencies.

I have enclosed a letter of authorization from the River County Road Commission to act on their behalf. Also enclosed are a letter and my findings regarding the hydraulic impacts of the proposed structures and justification for the wetland impacts.

If you have any questions, please feel free to contact me.

Sincerely



Jane Smith
Spalding Design

Enclosure:

cc: Mr. John Doe, River County Road Commission

River County Road Commission

January 15, 2003
(Sample Authorization letter)

Mr. Jane Smith
Spalding Design
P.O. Box 555
Lansing, Michigan 48909

Dear Ms. Smith:

SUBJECT: Pratt Road over Tibbetts Drain, Watson Drain, and Bad Creek

This letter is written in regards to the Pratt Road over Tibbetts Drain, Watson Drain, and Bad Creek. I am authorizing Spalding Design to act as our agent to apply for and secure a Michigan Department of Environmental Quality Permit for the above subject project. Please call if you have any questions. Thanks.

Sincerely,

John Doe

John Doe, Manager
River County Road Commission

Spalding Design

January 15, 2003

Sample Wetland Impacts Justification and Minimization

(This is the type of additional information that would be needed in box number 4 of the application. If there is not enough room in the box then additional information may be attached.)

SUBJECT: Wetland Impacts for Pratt Road

The proposed widening of Pratt Road near the Bad Creek will impact 0.013 acres of wetland through the placement of 89 cubic yards of fill. The road widening was necessitated to meet current road safety standards. On this type of road system, with a design speed of 55 mph, the minimum lane width is 11 feet with 3 feet of shoulder. Impacts have been minimized in the wetland areas by using these minimum road widths and side slopes allowed. It is our understanding that because the wetland impacts are less than 0.1 acre that no mitigation is required.

If you have any questions please feel free to contact me.

Sincerely

Jane Smith

Jane Smith
Spalding Design

Spalding Design

January 15, 2003

(Sample Additional Hydraulic Information)

SUBJECT: Hydraulic Reviews for Pratt Road

The following additional hydraulic information is provided with this application to replace the Tibbetts Drain and Bad Creek crossings

1) Pratt Road at Tibbetts Drain

The proposed 40 foot long, 5 foot span by 4 foot rise concrete box culvert is designed with an equal or greater hydraulic capacity when compared to the existing 20 foot long, 5 foot span by 3 foot rise concrete box culvert. The proposed road grade matches the existing road grade. The hydraulic computations to support this conclusion are attached.

2) Pratt Road at Bad Creek

The proposed 38 foot long, 38 foot span by 6 foot rise concrete box beam bridge together with its higher road grade is designed with an equal or greater hydraulic capacity when compared to the existing 18 foot long, 18 foot span by 5 foot rise concrete box beam bridge. The hydraulic computations to support this conclusion are attached.

Sincerely

Jane Smith

Jane Smith, P.E.
Spalding Design

US Army Corps of Engineers (USACE) | Michigan Department of Environmental Quality (MDEQ) DEQ

AGENCY USE				AGENCY USE
	Previous USACE Permit or File Number	Date Received	Land and Water Management Division, MDEQ File Number	
	USACE File Number		*Marina* Operating Permit Number	
			Fee received $	

- Complete all items in Sections 1 through 9 and those items in Sections 10 through 21 that apply to the project. Clear drawings and cross sections must be provided.

1 PROJECT LOCATION INFORMATION

- Refer to your property's legal description for the Township, Range, and Section information, and your property tax bill for your Property Tax Identification Number(s).

Address	Township Name(s)	Township(s)	Range(s)	Section(s)
Pratt Road	Riley	6N	3W	15,16, 21,22

City/Village	County(ies)	Property Tax Identification Number(s)	
Riley	River		
Name of Waterbody Tibbetts Drain, Watson Drain and Bad Creek	Project Name or Job Number Pratt Road	Subdivision/Plat / Lot Number	Private Claim

Project types (check all that apply): ☐ private ☒ public/government ☐ industrial ☐ commercial ☐ multi-family ☐ building addition ☐ new building or *structure* ☐ building renovation or restoration ☐ river restoration ☐ single-family ☐ other (explain)

The proposed project is on, within, or involves (check all that apply)

☐ a legally established County Drain (date established) (M/D/Y) / /

☒ a stream	☐ a pond (less than 5 acres)	☐ a Great Lake or *Section 10 Waters*	☐ a *natural river*	☐ a new marina
☐ a river	☐ a channel/canal	☐ a designated *high risk erosion area*	☐ a *dam*	☐ a *structure* removal
☒ a ditch or drain	☐ an *inland lake* (5 acres or more)	☐ a designated *critical dune area*	☒ a wetland	☒ a utility crossing
☒ a *floodway* area	☒ a *100-year floodplain*	☐ a designated *environmental area*	☐ 500 feet of an existing waterbody	

2 DESCRIBE PROPOSED PROJECT AND ASSOCIATED ACTIVITIES, AND THE CONSTRUCTION SEQUENCE AND METHODS

- Attach separate sheets, as needed, including necessary drawings, sketches, photographs, aerials, or plans.

Proposing to remove and replace culvert at Pratt Road crossing Tibbetts Drain. Installing utility crossing into Tibbetts Drain. Relocating Watson Drain to flow into Tibbetts Drain. Installing stormwater outlet pipe into Watson Drain. Remove and replace bridge at Pratt Road crossing Bad Creek. Wetland fill to widen road near Bad Creek.

3 APPLICANT, AGENT/CONTRACTOR, AND PROPERTY OWNER INFORMATION

- The applicant can be either the property owner or the person or company that proposes to undertake the activity.
- If the applicant is a corporation, both the corporation and its owner must provide a written document authorizing the agent/contractor to act on their behalf.

Applicant (individual or corporate name)	Agent/Contractor (firm name and contact person)
River County Road Commission	Spalding Design
Mailing Address P.O. Box 30458	Address P O Box 555
City Rapid State MI Zip Code 48905	City Lansing State MI Zip Code 48909
Daytime Phone Number with Area Code (517)-222-2222 Cell Phone Number (517)-212-2333	Daytime Phone Number with Area Code (517)-427-1212 Cell Phone Number - -
Fax (517)-222-2123 E-mail CRC@road.com	Fax - - E-mail smithjane@sd.com

Is the applicant the sole owner of all property on which this project is to be constructed and all property involved or impacted by this project? ☐ No ☐ Yes
If No, provide a letter signed by the property owner authorizing the agent/contractor to act on his or her behalf or a copy of easements or right-of-ways. If multiple owners, attach all property owners' names, mailing addresses, and telephone numbers. Disclose any DEQ conservation easements or other easements, deed restrictions, leases, or any other encumbrance upon the property in the project area. A copy of the land restriction must be provided.

Property Owner's Name (if different from applicant)	Mailing Address
Daytime Phone Number with Area Code - - Cell Phone Number - -	City State Zip Code

4 PROPOSED PROJECT PURPOSE, INTENDED USE, AND ALTERNATIVES CONSIDERED (Attach additional sheets if necessary)

- The purpose must include any new development or expansion of an existing land use.
- Include a description of alternatives considered to avoid or minimize resource impacts. Include factors such as, but not limited to, alternative construction technologies; alternative project layout and design; alternative locations; local land use regulations and infrastructure; and pertinent environmental and resource issues.
- For utility crossings, include both alternative routes and alternative construction methods. Purpose of this project to replace deteriorated culvert and bridge. The purpose of the stream relocation is to correct a poor alignment and severe erosion problem that is occuring at the Pratt Road crossing of the Watson Drain. Other alternatives considered were to replace the existing culvert on Pratt Road crossing Watson Drain instead of relocating the stream. This would have maintained the poor alignment which is creating a safety concern for the traveling public. *See additional write-up on wetland impacts.

5 LOCATING YOUR PROJECT SITE

- Provide the requested information listed below to help staff locate your project site.
- Attach a copy of a map, such as a plat, county, or USGS topographic map, clearly showing the site location and include an arrow indicating the north direction.
- Project area must be staked at the time of application submittal.

Is there an access road to the project? ☐ No ☒ Yes (If Yes, type of road, check all that apply) ☐ private ☒ public ☐ improved ☐ unimproved

Name of roads at closest main intersection *Pratt Road* and *Francis Road*

Directions from main intersection *Go west from Francis Road approximately 0.5 mile on Pratt Road to Tibbetts Drain and Watson Drain crossing and east 0.7 mile on Pratt Road to Bad Creek crossing.*

Style of house or other building on site ☐ ranch ☐ 2-story ☐ cape cod ☐ bi-level ☐ cottage/cabin ☐ pole barn ☐ none ☐ other (describe)

Color Color of adjacent property house and/or buildings

House number Address is visible on ☐ house ☐ garage ☐ mailbox ☐ sign ☐ other (describe)

Street name Fire lane number Lot number

How can your site be identified if there is no visible address?

Provide directions to the project site, with distances from the best and nearest visible landmark and waterbody *From Riley City travel south on Forest Hill Road 1 mile turn left (East) on Pratt Road go 0.5 mile to Tibbetts Drain and Watson Drain crossing and 1.8 miles east of Forest Hill to Bad Creek crossing.*

Does project cross boundaries of two or more political jurisdictions? (City/Township, Township/Township, County/County, etc.)
☒ No ☐ Yes (If Yes, list jurisdiction names.)

6 List all other federal, interstate, state, or local agency authorizations required for the proposed activity, including all approvals or denials received.

Agency	Type approval	Identification number	Date applied	Date approved / denied	If denied, reason for denial
County Drain Commision					

7 If a permit is issued, date activity will commence (M/D/Y) *06 / 19 / 2007* Proposed completion date (M/D/Y) *08 / 28 / 2007*

Has any construction activity commenced or been completed in a regulated area? ☐ No ☐ Yes
If Yes, identify the portion(s) underway or completed on drawings or attach project specifications and give completion date(s) (M/D/Y) / /

Were the regulated activities conducted under a MDEQ permit? ☐ No ☐ Yes
If Yes, list the MDEQ permit number

Are you aware of any unresolved violations of environmental law or litigation involving the property? ☐ No ☐ Yes (If Yes, explain)

8 PUBLIC NOTIFICATION (Attach additional sheets if necessary)

- Complete information for all *adjacent and impacted property owners* and the lake association or established lake board, including the contact person's name.
- If you own the adjacent lot, provide the requested information for the first adjacent parcel beyond your property line.

Property Owner's Name	Mailing Address	City	State	Zip Code
**See Attached*				

Name of ☐ Established Lake Board ☐ or Lake Association
and the Contact Person's name, phone number, and mailing address

9 APPLICANT'S CERTIFICATION READ CAREFULLY BEFORE SIGNING

I am applying for a permit(s) to authorize the activities described herein. I certify that I am familiar with the information contained in this application, that it is true and accurate, and, to the best of my knowledge, is in compliance with the State *Coastal Zone Management Program* and the *National Flood Insurance Program*. I understand that there are penalties for submitting false information and that any permit issued pursuant to this application may be revoked if information on this application is untrue. I certify that I have the authority to undertake the activities proposed in this application. By signing this application, I agree to allow representatives of the MDEQ, USACE, and/or their agents or contractors to enter upon said property in order to inspect the proposed activity site and the completed project. I understand that I must obtain all other necessary local, county, state, or federal permits and that the granting of other permits by local, county, state, or federal agencies does not release me from the requirements of obtaining the permit requested herein before commencing the activity. I understand that the payment of the application fee does not guarantee the issuance of a permit.

- All applicants must complete **all** of the items in Sections 1 through 9 on pages 1 and 2 of this application.
- Complete those items in Sections 10 through 21 that apply to the project. Submit only those pages where you have provided information.
- Your application will not be processed if the application form is not completely filled out.
- List here the application page numbers being submitted and a brief description of other attachments included with your application.
- Submit 8.5" by 11," 8.5" by 14" or 11" by 17" size drawings with 4 copies. The USACE requires one set of drawings on 8.5" x 11" paper, with all notations clearly legible. Larger copies may be submitted in addition to the standard size copies.
- A letter of authorization from the owner must be included if not signed below by the owner.

☐ Property Owner ☒ Agent/Contractor ☐ Corporation – Title	Printed Name *Jane Smith*	Signature Jane Smith	Date (M/D/Y) *01 / 03 / 2006*

Property Owners

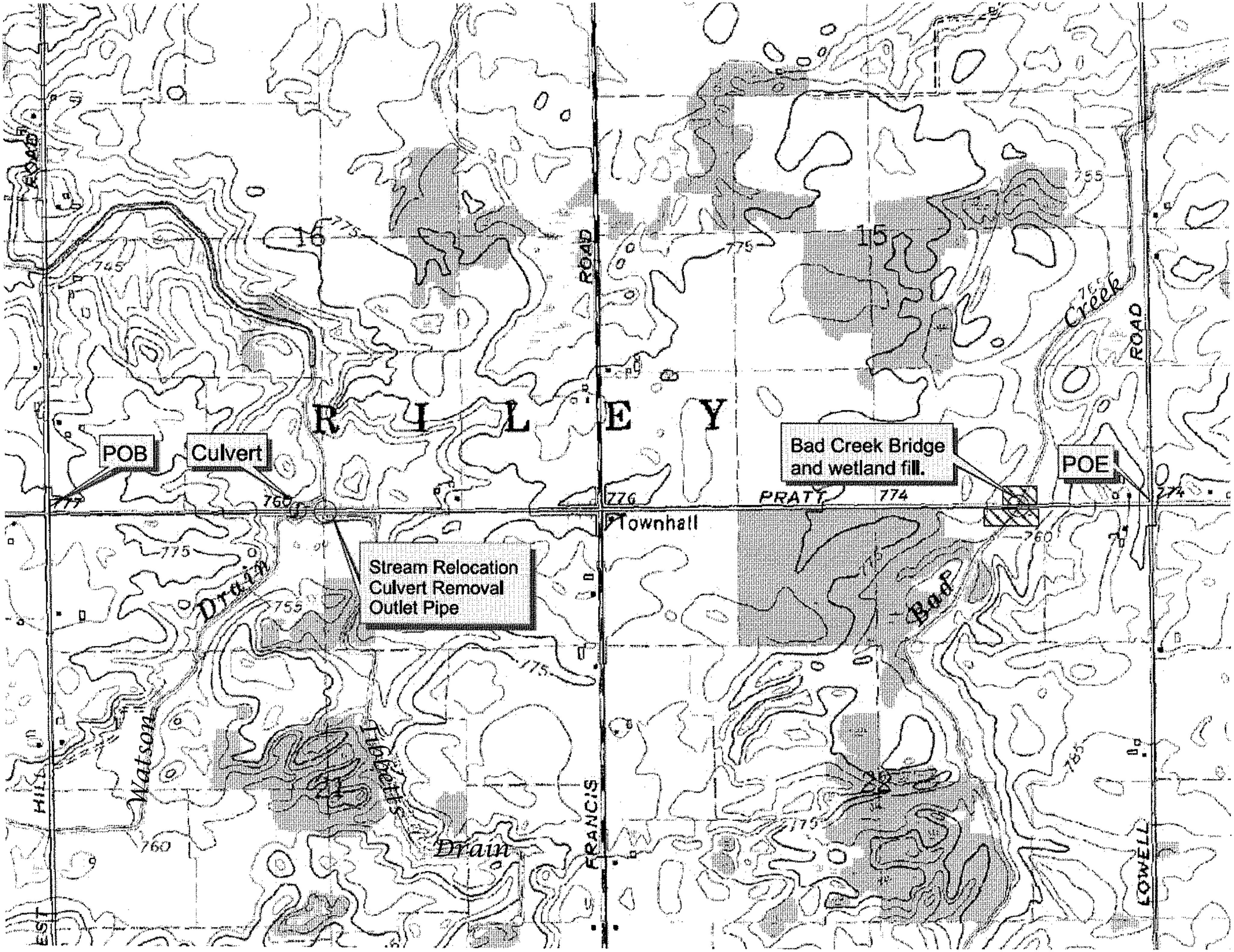
Tibbetts Drain and Watson Drain Culvert crossing Pratt Road

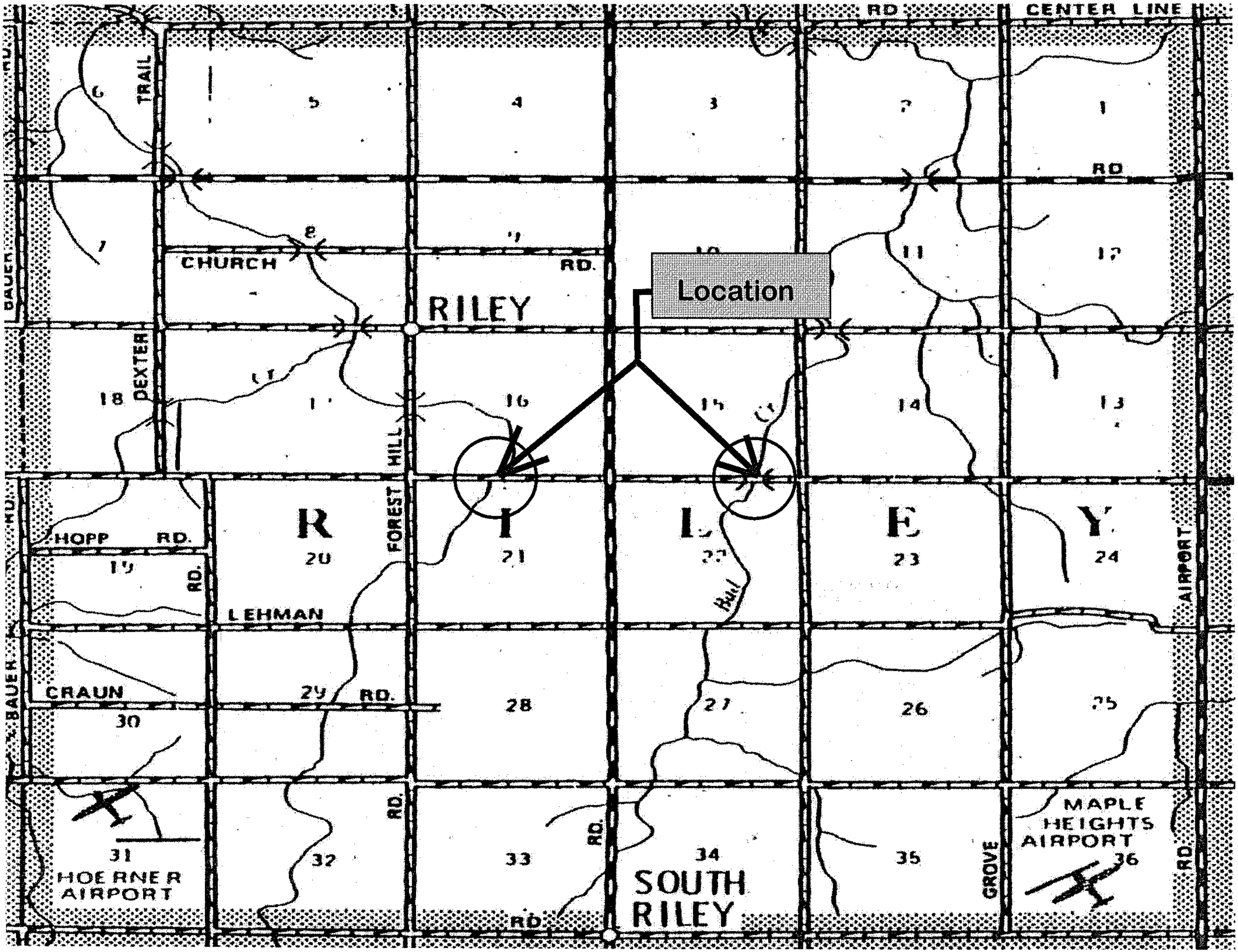
Sally Kime	503 Pratt Road	Riley, MI	48505
George Hawkins	602 Pratt Road	Riley, MI	48505
Tami Tate	523 Pratt Road	Riley, MI	48505
David Farrell	606 Pratt Road	Riley, MI	48505

Bad Creek Bridge Crossing Pratt Road

Sharon Price	902 Pratt Road	Riley, MI	48505
Esther Lagow	904 Pratt Road	Riley, MI	48505
Alan Hanna	901 Pratt Road	Riley, MI	48505
Roger Jacobs	903 Pratt Road	Riley, MI	48505

Because wetland impacts meet the minor project category the riparians are not needed in those areas.


POB
Culvert
Stream Relocation
Culvert Removal
Outlet Pipe
Bad Creek Bridge
and wetland fill.
POE
R I L E Y
PRATT
Townhall
ROAD
FRANCIS
LOWELL
HILL
Watson
Drain
Tibbetts
Bad
Creek
16
15
21
22



Location
RILEY
CHURCH
RD.
CENTER LINE
RD
TRAIL
DEXTER
FOREST HILL
HOPP RD.
RD.
LEHMAN
CRAUN
RD.
AIRPORT
GROVE
MAPLE HEIGHTS AIRPORT
HOERNER AIRPORT
SOUTH RILEY
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US Army Corps of Engineers (USACE) Utility Crossing Tibbetts Drain Michigan Department of Environmental Quality (MDEQ) DEQ

10 PROJECTS IMPACTING WETLANDS OR FLOODPLAINS OR LOCATED ON AN INLAND LAKE OR STREAM OR A GREAT LAKE

- Check boxes A through N that may be applicable to your project and provide the requested information.
- If your project may affect wetlands, also complete Section 12. If your project may impact regulated *floodplains*, also complete Section 13.
- Provide an overall site plan showing existing lakes, streams, wetlands, and other water features; existing *structures*; and the location of all proposed *structures*, land change activities and *soil erosion and sedimentation control measures*. Review sample drawings for guidance in completing site-specific drawings for your project.
- Some projects on the Great Lakes require an application for conveyance prior to Joint Permit Application completeness.
- On a Great Lake use IGLD 85 ☐ surveyed ☐ converted from observed still water elevation. On inland waters, ☐ NGVD 29 ☒ local datum ☐ other
- Observed water elevation (ft) 95.6 ,date of observation (M/D/Y) 12 / 03 / 2005

☐ **A. PROJECTS REQUIRING FILL** (See All Sample Drawings)

- To calculate volume in cubic yards (cu yd), multiply the average length in feet (ft) times the average width (ft) times the average depth (ft) and divide by 27.
- Attach both plan and *cross-section* views to scale showing maximum and average fill dimensions.

(Check all that apply) ☐ *floodplain* fill ☐ wetland fill ☒ *riprap* ☐ *seawall, bulkhead,* or *revetment* ☐ bridge or culvert
☐ boat launch ☐ off-shore swim area ☐ beach sanding ☐ boatwell ☐ crib *dock* ☒ other OHWM Ordinary High Water Mark

Fill dimensions (ft) Length __ width __ maximum depth	Total fill volume (cu yd) 23	Maximum water depth in fill area (ft) 1.5

Type of clean fill ☐ pea stone ☐ sand ☒ gravel ☐ wood chips ☒ other Excated Material
Will *filter fabric* be used under proposed fill? ☒ No ☐ Yes (If Yes, type)

Source of clean fill ☐ on-site, If on-site, show location on site plan ☒ commercial ☐ other, If other, attach description of location

Fill will extend 4 feet into the water from the *shoreline* and *upland* 3 feet out of the water. Fill volume below OHWM (cu yd) 22.8

☐ **B. PROJECTS REQUIRING DREDGING OR EXCAVATION** (For dredging projects see Sample Drawing 7, for excavation see other applicable Sample Drawings)

- To calculate volume in cubic yards (cu yd), multiply the average length in feet (ft) times the average width (ft) times the average depth (ft) and divide by 27.
- Attach both plan and *cross-section* views to scale showing maximum and average dredge or excavation dimensions.
- The applicant will be notified if sediment sampling is required.

(Check all that apply) ☐ *floodplain* excavation ☐ wetland dredge or draining ☐ *seawall, bulkhead, or revetment*
☐ navigation ☐ *boat well* ☐ boat launch ☒ other OWHM

Total dredge/excavation volume (cu yd) 35.6	Dimensions length 35 width 5 depth 5.5	Dredge/excavation volume below OHWM (cu yd) 35.6	Method and equipment for dredging In the dry with a backhoe

Has proposed dredge material been tested for contaminants? ☒ No ☐ Yes (If Yes, attach testing results)
Will dredged or excavated spoils be placed ☒ on-site ☐ off-site. Attach a detailed disposal area site plan, location map. If dispose off site, provide address and letter of authorization. Backfill

Has this same area been previously dredged? ☒ No ☐ Yes (If Yes, provide date and permit number, if available) / / /
If Yes, are you proposing to enlarge the previously dredged area ☐ No ☐ Yes

Is long-term maintenance dredging planned? ☒ No ☐ Yes (If Yes, when and how much?)

☐ **C. PROJECTS REQUIRING RIPRAP** (See Sample Drawings 2, 3, 8, 12, 14, 17, 22, and 23. Others may apply)

Riprap waterward of the ☐ shoreline OR ☒ *ordinary high water mark*	Dimensions (ft) length 4' width 1' depth 0.5	Volume(cu yd) .07
Riprap landward of the ☐ *shoreline* OR ☒ *ordinary high water mark*	Dimensions length 4' width 3' depth 0.5'	Volume(cu yd) .22

Type of *riprap* ☒ field stone ☐ angular rock ☐ other
Will *filter fabric* be used under proposed *riprap*? ☐ No ☒ Yes (If Yes, type) Nonwoven geotextile fabric

☐ **D. SHORE PROTECTION PROJECTS** (See Sample Drawings 2, 3, and 17)

(check all that apply) ☐ *riprap* – length (ft.) ☐ *seawall/bulkhead* – length (ft.) ☐ *revetment* – length (ft.) Distances of project from both property lines (ft)

☐ **E. DOCK - PIER – MOORING PILINGS** (See Sample Drawing 10)

Type ☐ open pile ☐ filled ☐ crib *Seasonal structure*? ☐ No ☐ Yes
Proposed *structure* dimensions (ft) length width Dimensions of nearest adjacent *structures* (ft) length width

☐ **F. BOAT WELL** (No Sample Drawing available)

Type of bank stabilization ☐ wood ☐ steel ☐ concrete ☐ vinyl ☐ *riprap* ☐ other

Boat well dimensions (ft) Length width depth	Number of boats
Volume of backfill behind sidewall stabilization (cu yd)	Distances of *boat well* from adjacent property lines (ft)

☐ **G. BOAT LAUNCH** (No Sample Drawing available) (check all that apply) ☐ new ☐ existing ☐ public ☐ private ☐ commercial ☐ replacement

Proposed overall boat launch dimensions (ft) length width depth	Type of material ☐ concrete ☐ wood ☐ stone ☐ other
Existing overall boat launch dimensions (ft) Length width depth	Boat launch dimensions (ft) below *ordinary high water mark* Length width depth

Distances of launch from both property lines (ft)	Number of skid *piers*	Skid *pier* dimensions (ft) width length

☐ **H. BOAT HOIST** (No Sample Drawing available)

(Check all that apply) ☐ *seasonal* ☐ permanent ☐ cradle ☐ side lifter ☐ other
located on ☐ *seawall* ☐ *dock* ☐ bottomlands

☐ **I. BOARDWALKS AND DECKS IN** ☐ **WETLANDS - OR -** ☐ **FLOODPLAINS** (See Sample Drawings 5 and 6. Provide table if necessary)

16 DRAWDOWN OF AN IMPOUNDMENT

- If wetlands will be impacted, also complete Section 12.

Type of drawdown ☐ over winter ☐ temporary ☐ one-time event ☐ annual event ☐ permanent (*dam* removal) ☐ other

Reason for drawdown

Has there been a previous drawdown? ☐ No ☐ Yes (If Yes, provide date (M/D/Y) / /		Previous MDEQ permit number, if known
Does waterbody have established legal lake level? ☐ No ☐ Yes ☐ Not Sure		*Dam* ID Number, if known
Extent of vertical drawdown (ft)	*Impoundment* design head (ft)	Number of adjacent or impacted property owners
Date drawdown would start (M/D/Y) / /	Date drawdown would stop (M/D/Y) / /	Rate of drawdown (ft/day)
Date refilling would start (M/D/Y) / /	Date refill would end (M/D/Y) / /	Rate of refill (ft/day)
Type of outlet discharge *structure* to be used ☐ surface ☐ bottom ☐ mid-depth	*Impoundment* area at normal water level (acres)	Sediment depth behind *impoundment* discharge *structure* (ft)

17 DAM, EMBANKMENT, DIKE, SPILLWAY, OR CONTROL STRUCTURE ACTIVITIES (See Sample Drawing 15)

- If wetlands will be impacted, also complete Section 12.
- Attach site-specific conceptual plans for construction of a new *dam*, reconstruction of a *failed dam*, or enlargement of an existing *dam* for resource impact review. Detailed engineering plans are required once the activity has been determined to be permitable from an environmental standpoint.
- Attach detailed engineering plans for a *dam* repair, *dam alteration*, *dam abandonment*, or *dam* removal.

Which one best describes your project? ☐ new *dam* construction ☐ reconstruction of a *failed dam* ☐ enlargement of an existing *dam* ☐ *dam repair* ☐ *dam alteration* ☐ *dam abandonment* ☐ *dam* removal ☐ other

Dam ID Number If known	Type of outlet discharge *structure* ☐ surface ☐ bottom ☐ mid depth	Will proposed activities require a drawdown of the waterbody to complete the work? ☐ No ☐ Yes (If Yes, also complete Section 16)	
Riprap Volume (cu yd)	Dredging/excavation Volume (cu yd)	Fill volume (cu yd)	Does *structure* allow complete drainage of waterbody? ☐ No ☐ Yes
Benchmark elevation (ft)	Datum used ☐ Local ☐ *NGVD 29* ☐ other	Describe benchmark and show on plans	

Have you engaged the services of a Licensed Professional Engineer? ☐ No ☐ Yes (If Yes, name, registration number, and mailing address)

Will a water diversion during construction be required? ☐ No ☐ Yes (If Yes, describe how the stream flow will be controlled through the *dam* construction area during the proposed project activities)

- The following additional information is required for a new dam, reconstruction of a failed dam, or enlargement of an existing dam.

Describe the type of *dam* and how you will design the *dam* and embankment to control seepage through and underneath the *dam*.

Embankment top elevation (ft)	Streambed elevation at downstream embankment toe (ft)	Structural height (difference between embankment top elevation and streambed elevation at downstream embankment toe) (ft)		
Embankment length (ft)	Embankment top width (ft)	Embankment bottom width (ft)	Embankment *slopes* (vertical / horizontal)	Upstream Downstream
Proposed normal pool elevation (ft)	*Impoundment* flood elevation (ft)	Maximum vertical drawdown capability (ft) (Attach operational procedure of the proposed *structure*, if available)		
Have soil borings been taken at *dam* location? ☐ No ☐ Yes (If Yes, submit results with permit application)	Will a cold water *underspill* be provided? ☐ No ☐ Yes (If Yes, invert elevation (ft.)	Do you have flowage rights to all proposed flooded property at the design flood elevation? ☐ No ☐ Yes		

18 UTILITY CROSSINGS (See Sample Drawings 12 and 13)

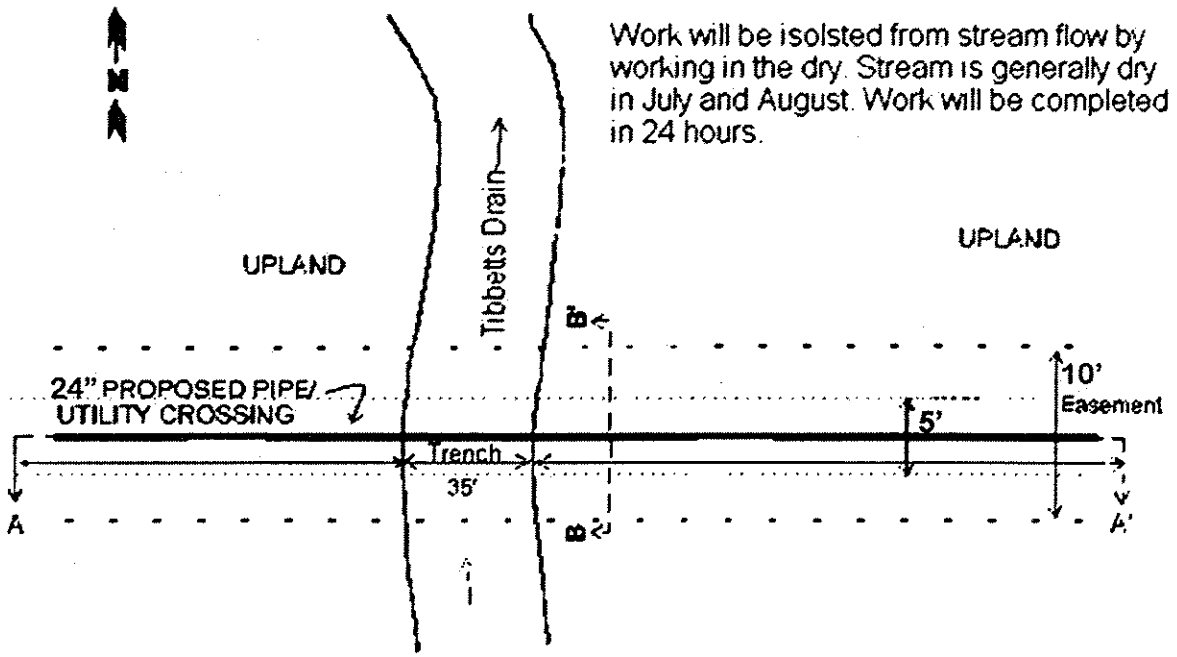
- If side casting is required, complete Subsections 10A and 10B. If spoils will be placed in wetlands or wetlands may be impacted, complete Section 12.
- Attach additional sheets with the requested information as needed for multiple crossings.

What method will be used to construct the crossings? ☐ *flume* ☐ *plow* ☒ open trench ☐ jack and bore ☐ directional drilling

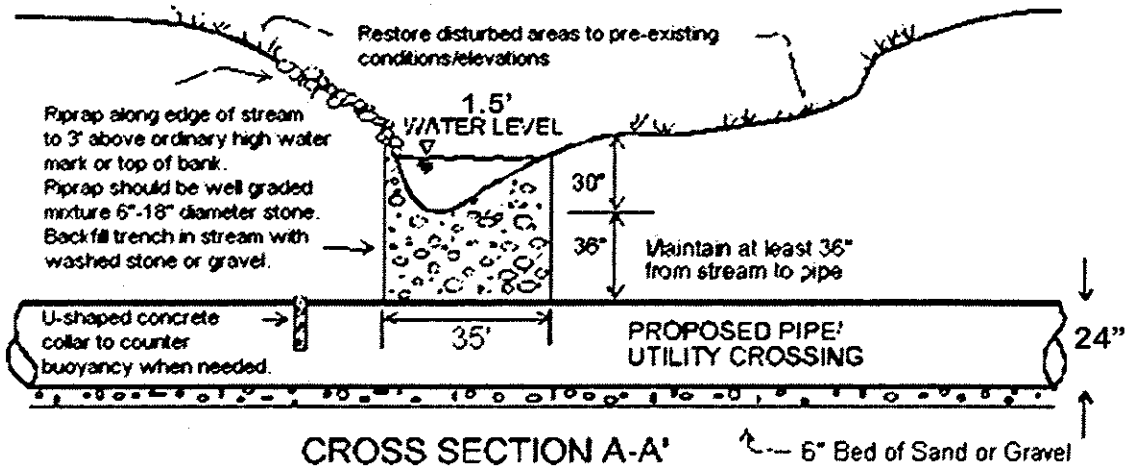
Crossing of ☒ *Inland Lake or Stream* ☐ *floodplain* ☐ international waters ☐ wetlands (also complete Section 12)

Type	Number of wetland crossings	Number of inland lake or stream crossings	Pipe diameter (in.)	Pipe length per crossing (ft.)	Distance below streambed or wetland (in.)	Trench width (ft.)
☐ sanitary sewer						
☐ storm sewer						
☒ watermain	0	1	24"	35'	36"	5'
☐ cable						
☐ oil/gas pipeline						

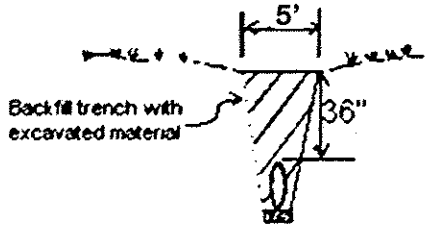
Tibbetts Drain
Utility Crossing



PLAN DRAWING



CROSS SECTION A-A'



CROSS SECTION B-B'

PROPOSED PIPE/UTILITY CROSSING IN A TRENCH
Applicant: Spalding Design
Waterway: Tibbetts Drain
Township: Riley
County: River
Sections: 16 and 21
Town and Range: 6N3W

US Army Corps of Engineers (USACE) Culvert Crossing Tibbetts Drain Michigan Department of Environmental Quality (MDEQ) DEQ

10 PROJECTS IMPACTING WETLANDS OR FLOODPLAINS OR LOCATED ON AN INLAND LAKE OR STREAM OR A GREAT LAKE

- Check boxes A through N that may be applicable to your project and provide the requested information.
- If your project may affect wetlands, also complete Section 12. If your project may impact regulated *floodplains*, also complete Section 13.
- Provide an overall site plan showing existing lakes, streams, wetlands, and other water features; existing *structures*; and the location of all proposed *structures*, land change activities and *soil erosion and sedimentation control measures*. Review sample drawings for guidance in completing site-specific drawings for your project.
- Some projects on the Great Lakes require an application for conveyance prior to Joint Permit Application completeness.
- On a Great Lake use IGLD 85 ☐ surveyed ☐ converted from observed still water elevation. On inland waters, ☐ NGVD 29 ☒ local datum ☐ other
- Observed water elevation (ft) 97.6, date of observation (M/D/Y) 12/03/05

☒ A. PROJECTS REQUIRING FILL (See All Sample Drawings)

- To calculate volume in cubic yards (cu yd), multiply the average length in feet (ft) times the average width (ft) times the average depth (ft) and divide by 27.
- Attach both plan and *cross-section* views to scale showing maximum and average fill dimensions.

(Check all that apply) ☐ *floodplain* fill ☐ wetland fill ☒ *riprap* ☐ *seawall, bulkhead,* or *revetment* ☐ bridge or culvert
☐ boat launch ☐ off-shore swim area ☐ beach sanding ☐ boatwell ☐ crib *dock* ☒ other OHWM *Ordinary High Water Mark*

Fill dimensions (ft) Length width maximum depth	Total fill volume (cu yd) 24.9	Maximum water depth in fill area (ft) 1.5

Type of clean fill ☐ pea stone ☐ sand ☒ gravel ☐ wood chips ☒ other riprap
Will *filter fabric* be used under proposed fill? ☒ No ☐ Yes (If Yes, type)

Source of clean fill ☐ on-site, If on-site, show location on site plan ☒ commercial ☐ other, If other, attach description of location

Fill will extend 5 feet into the water from the *shoreline* and *upland* 6 feet out of the water. Fill volume below OHWM (cu yd) .74

☒ B. PROJECTS REQUIRING DREDGING OR EXCAVATION (For dredging projects see Sample Drawing 7, for excavation see other applicable Sample Drawings)

- To calculate volume in cubic yards (cu yd), multiply the average length in feet (ft) times the average width (ft) times the average depth (ft) and divide by 27.
- Attach both plan and *cross-section* views to scale showing maximum and average dredge or excavation dimensions.
- The applicant will be notified if sediment sampling is required.

(Check all that apply) ☐ *floodplain* excavation ☐ wetland dredge or draining ☐ *seawall, bulkhead, or revetment*
☐ navigation ☐ *boat well* ☐ boat launch ☒ other OHWM

Total dredge/excavation volume (cu yd) 3.1	Dimensions length 68 width 2.5 depth .5	Dredge/excavation volume below OHWM (cu yd) 3.1	Method and equipment for dredging In the dry with backhoe

Has proposed dredge material been tested for contaminants? ☒ No ☐ Yes (If Yes, attach testing results)
Will dredged or excavated spoils be placed ☒ on-site ☐ off-site. Attach a detailed disposal area site plan, location map. If dispose off site, provide address and letter of authorization.

Has this same area been previously dredged? ☒ No ☐ Yes (If Yes, provide date and permit number, if available) / / /
If Yes, are you proposing to enlarge the previously dredged area ☒ No ☐ Yes

Is long-term maintenance dredging planned? ☒ No ☐ Yes (If Yes, when and how much?)

☒ C. PROJECTS REQUIRING RIPRAP (See Sample Drawings 2, 3, 8, 12, 14, 17, 22, and 23. Others may apply)

Riprap waterward of the ☐ shoreline OR ☒ *ordinary high water mark*	Dimensions (ft) length 5 width 4 depth 0.5	Volume(cu yd) .37
Riprap landward of the ☐ *shoreline* OR ☒ *ordinary high water mark*	Dimensions length 10 width 6 depth 0.5	Volume(cu yd) 1.1

Type of *riprap* ☒ field stone ☐ angular rock ☐ other
Will *filter fabric* be used under proposed *riprap*? ☐ No ☒ Yes (If Yes, type) geotextile

☐ D. SHORE PROTECTION PROJECTS (See Sample Drawings 2, 3, and 17)

(check all that apply) ☐ *riprap* – length (ft.) ☐ *seawall/bulkhead* – length (ft.) ☐ *revetment* – length (ft.)
Distances of project from both property lines (ft)

☐ E. DOCK - PIER – MOORING PILINGS (See Sample Drawing 10)

Type ☐ open pile ☐ filled ☐ crib
Seasonal structure? ☐ No ☐ Yes
Proposed *structure* dimensions (ft) length width
Dimensions of nearest adjacent *structures* (ft) length width

☐ F. BOAT WELL (No Sample Drawing available)

Type of bank stabilization ☐ wood ☐ steel ☐ concrete ☐ vinyl ☐ *riprap* ☐ other
Boat well dimensions (ft) Length width depth
Number of boats
Volume of backfill behind sidewall stabilization (cu yd)
Distances of *boat well* from adjacent property lines (ft)

☐ G. BOAT LAUNCH (No Sample Drawing available) (check all that apply) ☐ new ☐ existing ☐ public ☐ private ☐ commercial ☐ replacement

Proposed overall boat launch dimensions (ft) length width depth
Type of material ☐ concrete ☐ wood ☐ stone ☐ other
Existing overall boat launch dimensions (ft) Length width depth
Boat launch dimensions (ft) below *ordinary high water mark* Length width depth
Distances of launch from both property lines (ft)
Number of skid *piers*
Skid *pier* dimensions (ft) width length

☐ H. BOAT HOIST (No Sample Drawing available)

(Check all that apply) ☐ *seasonal* ☐ permanent ☐ cradle ☐ side lifter ☐ other
located on ☐ *seawall* ☐ *dock* ☐ bottomlands

☐ I. BOARDWALKS AND DECKS IN ☐ WETLANDS - OR - ☐ FLOODPLAINS (See Sample Drawings 5 and 6. Provide table if necessary)

(Check all that apply) ☐ boardwalk ☐ deck
Boardwalk or deck is on ☐ fill ☐ *piling*
Dimensions (ft) length width

US Army Corps of Engineers (USACE) Culvert Crossing Tibbetts Drain Michigan Department of Environmental Quality (MDEQ) DEQ

13 FLOODPLAIN ACTIVITIES (See Sample Drawing 5. Others may apply.)

- Attach additional sheets with the requested information when multiple *floodplain* activities are included in this application.

(check all that apply) ☒ fill ☐ excavation ☐ other

Site is 95.6 feet above ☐ *ordinary high water mark* (OHWM) OR ☒ observed water level. Date of observation (M/D/Y) 12/03/05

Fill volume below the 100-year floodplain elevation (cu yd) 22 *Placed in the 4 quandrants for slope stabilization*	Compensating cut volume below the 100-year floodplain elevation (cu yd) 0

14 BRIDGES AND CULVERTS (Including Foot and Cart Bridges)

- Provide detailed site-specific drawings of existing and proposed *Plan View* (Sample Drawing 14A), Elevation View (Sample Drawing 14B), Stream and *Floodplain Cross-Section* (Sample Drawing 14C), Stream Profile (Sample Drawing 14D) and *Floodplain* Fill (Sample Drawing 5) at a scale adequate for detailed review.
- Provide the requested information that applies to your project. If there is not an existing *structure*, leave the "Existing" column blank.
- If you choose to have a Licensed Professional Engineer "certify" that your project will not cause a "*harmful interference*" for a range of flood discharges up to and including the 100-year flood discharge, then you must use the "Required Certification Language." You may request a copy by phone, email, or mail. A hydraulic report supporting this certification may also be required.
- Attach additional sheets with the requested information when multiple crossings are included in this application.

		Existing	Proposed			Existing	Proposed
Culvert type (box, circular, arch) and material (corrugated metal, timber, concrete, etc.)		Concrete CMP	Concrete CMP	Bridge span (length perpendicular to stream) OR culvert ☒ width ☐ diameter (ft)		3	5
Bridge type (concrete box beam, timber, concrete I-beam, etc.)				Bridge width (parallel to stream) OR culvert length (ft)		52	68
Entrance design (projecting, mitered, wingwalls, etc.)		Projecting	Projecting	Bridge *rise* (from bottom of beam to streambed) OR Culvert *rise* (from top of culvert to streambed) (ft)		3	5
Total *structure waterway opening* above streambed (sq ft)		7	19				
☒ elevation of culvert crown	Upstream	101.0	100.7	Higher elevation of ☒ culvert invert OR	Upstream	98	95.7
☐ bottom of bridge beam (ft)	Downstream	99.1	100.6	☐ streambed within culvert (ft)	Downstream	96.1	95.6
Elevation of road grade at *structure* (ft)		104.4	104.5	Distance from low point of road to mid-point of bridge crossing (ft)		12	12
Elevation of low point in road (ft)		104.3	104.4				

Cross-sectional area of primary channel (sq ft) (See Sample Drawing 14C) 6

Average stream width at OHWM outside the influence of the structure (ft) Upstream 4 Downstream 4

Reference datum used (show on plans with description) ☐ *NGVD 29* ☐ *IGLD 85* (Great Lakes coastal areas) ☒ local

High water elevation – describe reference point and highest known water level above or below reference point and date of observation.

15 STREAM, RIVER, OR DRAIN CONSTRUCTION ACTIVITIES (No sample drawing available)

Complete Section 10A for fill, Section 10B for dredge or excavation, and Section10C for *riprap* activities.

- If side casting or other proposed activities will impact wetlands or *floodplains*, complete Sections 12 and 13, respectively.
- Provide an overall site plan showing existing lakes, streams, wetlands, and other water features; existing *structures*; and the location of all proposed *structures* and land change activities. Provide *cross-section* (elevation) drawings necessary to clearly show existing and proposed conditions. Be sure to indicate drawing scales.
- For activities on legally established county drains, provide original design and proposed dimensions and elevations.

(check all that apply) ☐ maintenance ☐ improvement ☐ relocation ☐ enclosure ☐ new drain ☐ wetlands ☐ other

Dimensions (ft) of existing stream/drain channel to be worked on. length width depth

Dimensions (ft) of new, relocated, or enclosed stream/drain channel. length width depth	Volume of Dredge/ excavation (cu yds)
Existing channel average water depth in a normal year (ft)	Proposed side *slopes* (vertical / horizontal)

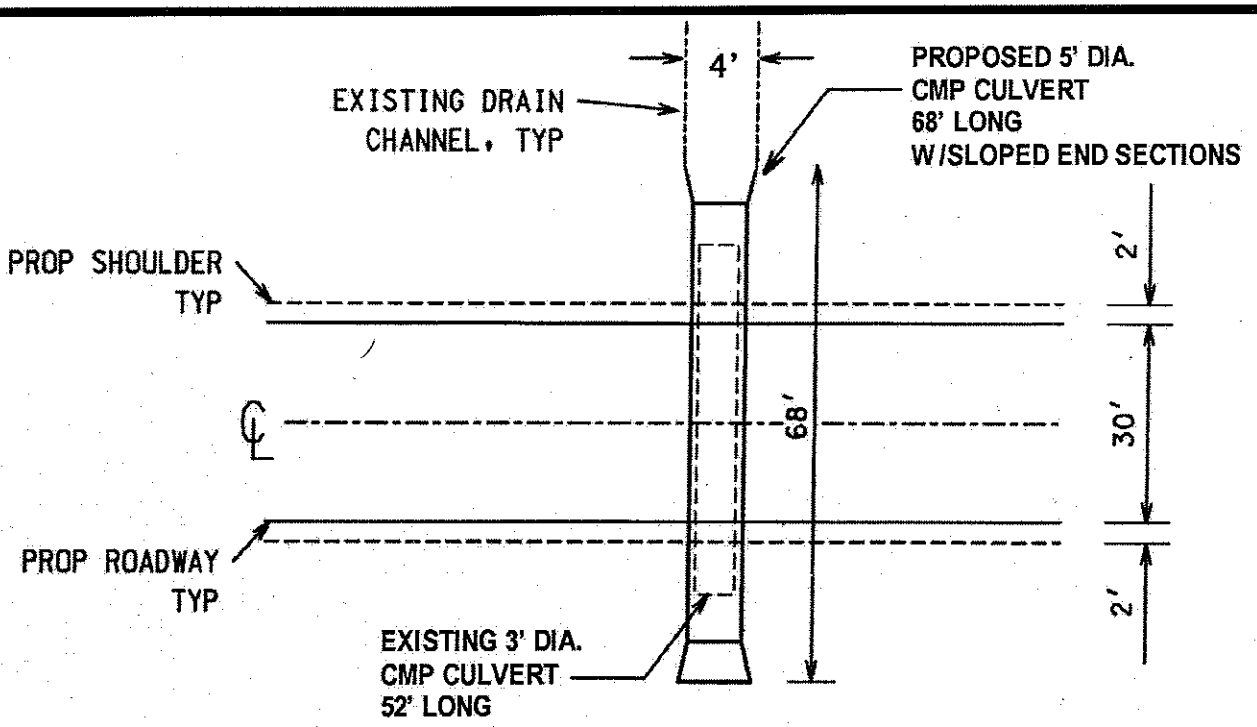
How will *slopes* and bottom be stabilized?

Will old/enclosed stream channel be backfilled to top of bank grade? ☐ No ☐ Yes	Length of channel to be abandoned (ft)	Volume of fill (cu yds)

If an enclosed *structure* is proposed, check type ☐ concrete ☐ corrugated metal ☐ plastic ☐ other

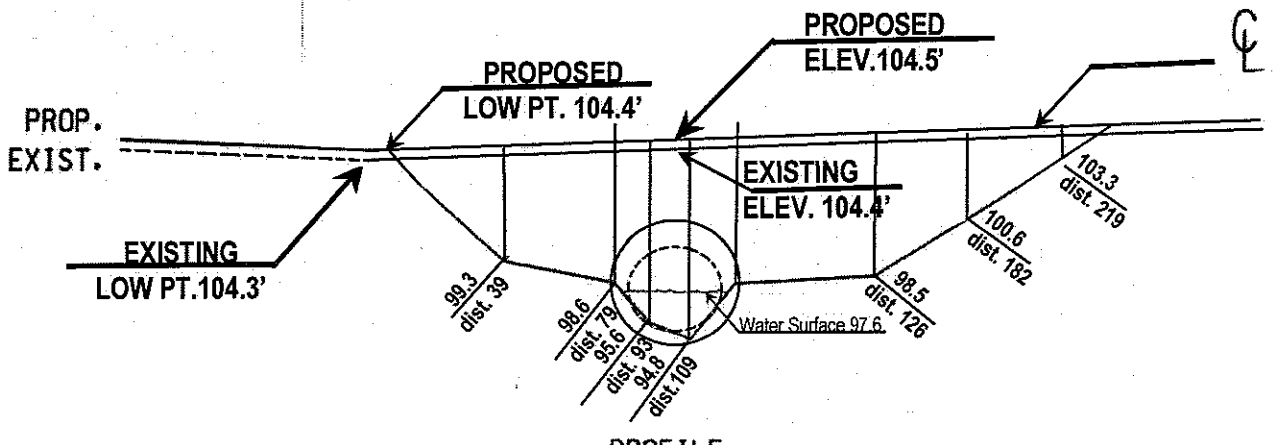
Dimensions of the structure size length volume of fill

Will spoils be disposed of on site? ☐ No ☐ Yes (If Yes, show location of spoils on site plan in an *upland* area.)



PLAN

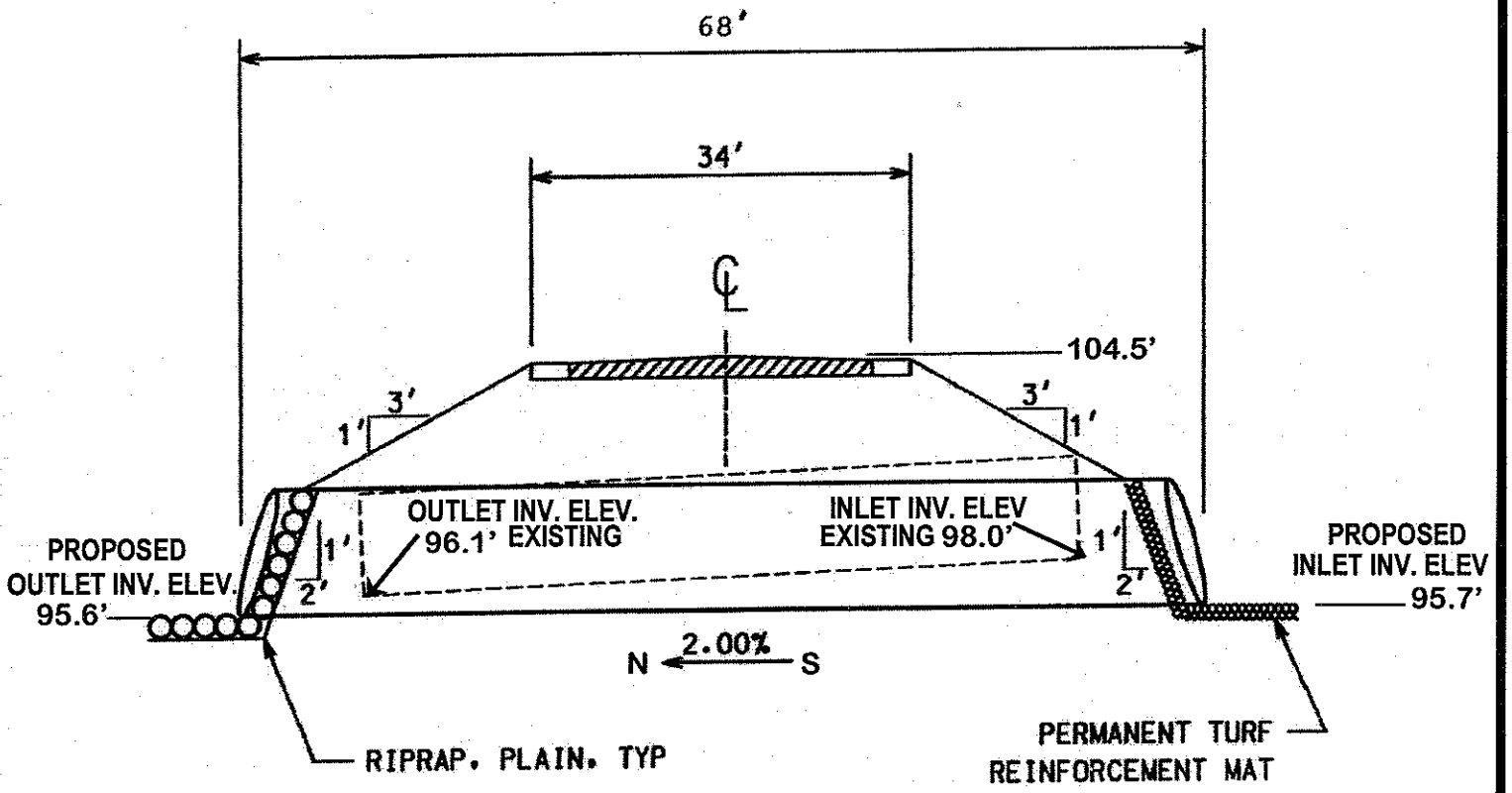
PROPOSED & EXISTING



PROFILE

PROPOSED & EXISTING

CULVERT AT PRATT ROAD CROSSING TIBBETTS DRAIN
RILEY TOWNSHIP
RIVER COUNTY
T06N R03W SECTIONS 16 AND 21



CROSS SECTION

PROPOSED & EXISTING

CULVERT AT PRATT ROAD CROSSING TIBBETTS DRAIN
RILEY TOWNSHIP
RIVER COUNTY
T06N R03W SECTIONS 16 AND 21

US Army Corps of Engineers (USACE) Michigan Department of Environmental Quality (MDEQ) DEQ

Stream Relocation @ Watson Drain

10 PROJECTS IMPACTING WETLANDS OR FLOODPLAINS OR LOCATED ON AN INLAND LAKE OR STREAM OR A GREAT LAKE

- Check boxes A through N that may be applicable to your project and provide the requested information.
- If your project may affect wetlands, also complete Section 12. If your project may impact regulated *floodplains*, also complete Section 13.
- Provide an overall site plan showing existing lakes, streams, wetlands, and other water features; existing *structures*; and the location of all proposed *structures*, land change activities and *soil erosion and sedimentation control measures*. Review sample drawings for guidance in completing site-specific drawings for your project.
- Some projects on the Great Lakes require an application for conveyance prior to Joint Permit Application completeness.
- On a Great Lake use IGLD 85 ☐ surveyed ☐ converted from observed still water elevation. On inland waters, ☐ NGVD 29 ☒ local datum ☐ other
- Observed water elevation (ft) 97.6, date of observation (M/D/Y) 12/03/2005

☐ **A. PROJECTS REQUIRING FILL** (See All Sample Drawings)

- To calculate volume in cubic yards (cu yd), multiply the average length in feet (ft) times the average width (ft) times the average depth (ft) and divide by 27.
- Attach both plan and *cross-section* views to scale showing maximum and average fill dimensions.

(Check all that apply) ☐ *floodplain* fill ☐ wetland fill ☒ *riprap* ☐ *seawall, bulkhead, or revetment* ☐ bridge or culvert ☐ boat launch ☐ off-shore swim area ☐ beach sanding ☐ boatwell ☐ crib *dock* ☒ other Stream Relocation

Fill dimensions (ft) Length width maximum depth	Total fill volume (cu yd) 94.5	Maximum water depth in fill area (ft) 1.5

Type of clean fill ☐ pea stone ☐ sand ☐ gravel ☐ wood chips ☒ other Backfill existing stream with excavated material

Will *filter fabric* be used under proposed fill? ☒ No ☐ Yes (If Yes, type)

Source of clean fill ☒ on-site, If on-site, show location on site plan ☒ commercial ☐ other, If other, attach description of location

Fill will extend feet into the water from the *shoreline* and *upland* feet out of the water. Fill volume below OHWM (cu yd) 91.4

☐ **B. PROJECTS REQUIRING DREDGING OR EXCAVATION** (For dredging projects see Sample Drawing 7, for excavation see other applicable Sample Drawings)

- To calculate volume in cubic yards (cu yd), multiply the average length in feet (ft) times the average width (ft) times the average depth (ft) and divide by 27.
- Attach both plan and *cross-section* views to scale showing maximum and average dredge or excavation dimensions.
- The applicant will be notified if sediment sampling is required.

(Check all that apply) ☐ *floodplain* excavation ☐ wetland dredge or draining ☐ *seawall, bulkhead, or revetment* ☐ navigation ☐ *boat well* ☐ boat launch ☒ other Stream relocation

Total dredge/excavation volume (cu yd) 86.7	Dimensions length 390 width 4 depth 1.5	Dredge/excavation volume below OHWM (cu yd) 86.7	Method and equipment for dredging In the dry with excavator

Has proposed dredge material been tested for contaminants? ☒ No ☐ Yes (If Yes, attach testing results)

Will dredged or excavated spoils be placed ☒ on-site ☐ off-site. Attach a detailed disposal area site plan, location map. If dispose off site, provide address and letter of authorization.

Has this same area been previously dredged? ☒ No ☐ Yes (If Yes, provide date and permit number, if available) / / /

If Yes, are you proposing to enlarge the previously dredged area ☐ No ☐ Yes

Is long-term maintenance dredging planned? ☒ No ☐ Yes (If Yes, when and how much?)

☐ **C. PROJECTS REQUIRING RIPRAP** (See Sample Drawings 2, 3, 8, 12, 14, 17, 22, and 23. Others may apply)

Riprap waterward of the ☐ shoreline OR ☒ *ordinary high water mark*	Dimensions (ft) length 35' width 1.5' depth 5'	Volume(cu yd) 4.7
Riprap landward of the ☐ *shoreline* OR ☒ *ordinary high water mark*	Dimensions length 45' width 3' depth 1.5'	Volume(cu yd) 3.1

Type of *riprap* ☒ field stone ☐ angular rock ☐ other

Will *filter fabric* be used under proposed *riprap*? ☐ No ☒ Yes (If Yes, type) Nonwoven Geotextile Fabric

☐ **D. SHORE PROTECTION PROJECTS** (See Sample Drawings 2, 3, and 17)

(check all that apply) ☐ *riprap* – length (ft.) ☐ *seawall/bulkhead* – length (ft.) ☐ *revetment* – length (ft.)

Distances of project from both property lines (ft)

☐ **E. DOCK - PIER – MOORING PILINGS** (See Sample Drawing 10)

Type ☐ open pile ☐ filled ☐ crib

Seasonal structure? ☐ No ☐ Yes

Proposed *structure* dimensions (ft) length width

Dimensions of nearest adjacent *structures* (ft) length width

☐ **F. BOAT WELL** (No Sample Drawing available)

Type of bank stabilization ☐ wood ☐ steel ☐ concrete ☐ vinyl ☐ *riprap* ☐ other

Boat well dimensions (ft) Length width depth

Number of boats

Volume of backfill behind sidewall stabilization (cu yd)

Distances of *boat well* from adjacent property lines (ft)

☐ **G. BOAT LAUNCH** (No Sample Drawing available) (check all that apply) ☐ new ☐ existing ☐ public ☐ private ☐ commercial ☐ replacement

Proposed overall boat launch dimensions (ft) length width depth

Type of material ☐ concrete ☐ wood ☐ stone ☐ other

Existing overall boat launch dimensions (ft) Length width depth

Boat launch dimensions (ft) below *ordinary high water mark* Length width depth

Distances of launch from both property lines (ft)	Number of skid *piers*	Skid *pier* dimensions (ft) width length

☐ **H. BOAT HOIST** (No Sample Drawing available)

(Check all that apply) ☐ *seasonal* ☐ permanent ☐ cradle ☐ side lifter ☐ other

located on ☐ *seawall* ☐ *dock* ☐ bottomlands

☐ **I. BOARDWALKS AND DECKS IN** ☐ **WETLANDS - OR -** ☐ **FLOODPLAINS** (See Sample Drawings 5 and 6. Provide table if necessary)

(Check all that apply) ☐ boardwalk ☐ deck Boardwalk or deck is on ☐ fill ☐ *piling* Dimensions (ft) length width

Stream Relocation @ Watson Drain

13 FLOODPLAIN ACTIVITIES (See Sample Drawing 5. Others may apply.)

- Attach additional sheets with the requested information when multiple *floodplain* activities are included in this application.

(check all that apply) ☐ fill ☐ excavation ☐ other

Site is feet above ☐ *ordinary high water mark* (OHWM) OR ☐ observed water level. Date of observation (M/D/Y) / /

Fill volume below the 100-year floodplain elevation (cu yd)	Compensating cut volume below the 100-year floodplain elevation (cu yd)

14 BRIDGES AND CULVERTS (Including Foot and Cart Bridges)

- Provide detailed site-specific drawings of existing and proposed *Plan View* (Sample Drawing 14A), Elevation View (Sample Drawing 14B), Stream and *Floodplain Cross-Section* (Sample Drawing 14C), Stream Profile (Sample Drawing 14D) and *Floodplain* Fill (Sample Drawing 5) at a scale adequate for detailed review.
- Provide the requested information that applies to your project. If there is not an existing *structure*, leave the "Existing" column blank.
- If you choose to have a Licensed Professional Engineer "certify" that your project will not cause a "*harmful interference*" for a range of flood discharges up to and including the 100-year flood discharge, then you must use the "Required Certification Language." You may request a copy by phone, email, or mail. A hydraulic report supporting this certification may also be required.
- Attach additional sheets with the requested information when multiple crossings are included in this application.

		Existing	Proposed			Existing	Proposed
Culvert type (box, circular, arch) and material (corrugated metal, timber, concrete, etc.)				Bridge span (length perpendicular to stream) OR culvert ☐ width ☐ diameter (ft)			
Bridge type (concrete box beam, timber, concrete I-beam, etc.)				Bridge width (parallel to stream) OR culvert length (ft)			
Entrance design (projecting, mitered, wingwalls, etc.)				Bridge *rise* (from bottom of beam to streambed) OR Culvert *rise* (from top of culvert to streambed) (ft)			
Total *structure waterway opening* above streambed (sq ft)							
☐ elevation of culvert crown	Upstream			Higher elevation of ☐ culvert invert OR	Upstream		
☐ bottom of bridge beam (ft)	Downstream			☐ streambed within culvert (ft)	Downstream		
Elevation of road grade at *structure* (ft)				Distance from low point of road to mid-point of bridge crossing (ft)			
Elevation of low point in road (ft)							

Cross-sectional area of primary channel (sq ft) (See Sample Drawing 14C)	Average stream width at OHWM outside the influence of the structure (ft)	Upstream / Downstream

Reference datum used (show on plans with description) ☐ *NGVD 29* ☐ *IGLD 85* (Great Lakes coastal areas) ☐ local

High water elevation – describe reference point and highest known water level above or below reference point and date of observation.

15 STREAM, RIVER, OR DRAIN CONSTRUCTION ACTIVITIES (No sample drawing available)

Complete Section 10A for fill, Section 10B for dredge or excavation, and Section10C for *riprap* activities.

- If side casting or other proposed activities will impact wetlands or *floodplains*, complete Sections 12 and 13, respectively.
- Provide an overall site plan showing existing lakes, streams, wetlands, and other water features; existing *structures*; and the location of all proposed *structures* and land change activities. Provide *cross-section* (elevation) drawings necessary to clearly show existing and proposed conditions. Be sure to indicate drawing scales.
- For activities on legally established county drains, provide original design and proposed dimensions and elevations.

(check all that apply) ☐ maintenance ☐ improvement ☒ relocation ☐ enclosure ☐ new drain ☐ wetlands ☐ other

Dimensions (ft) of existing stream/drain channel to be worked on. length 390' width 4' depth 1.5'

Dimensions (ft) of new, relocated, or enclosed stream/drain channel. length 390' width 4' depth 1.5'	Volume of Dredge/ excavation (cu yds) 86.7
Existing channel average water depth in a normal year (ft) 1.5'	Proposed side *slopes* (vertical / horizontal) 1 on 2

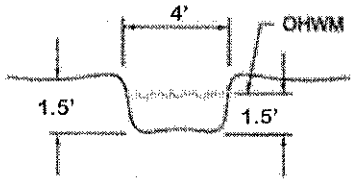
How will *slopes* and bottom be stabilized?
Riprap over geotextile fabric, erosion control mulch blankets and *new vegetation*.

Will old/enclosed stream channel be backfilled to top of bank grade? ☐ No ☒ Yes	Length of channel to be abandoned (ft) 390'	Volume of fill (cu yds) 86.7

If an enclosed *structure* is proposed, check type ☐ concrete ☐ corrugated metal ☐ plastic ☐ other
Dimensions of the structure size length volume of fill

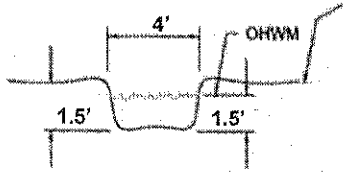
Will spoils be disposed of on site? ☐ No ☒ Yes (If Yes, show location of spoils on site plan in an *upland* area.) Backfill existing stream

Reference datum used (show on plans with description) ☐ *NGVD 29* ☐ *IGLD 85* (Great Lakes coastal areas) ☒ local 97.6



EXISTING CHANNEL SECTION

STABILIZE BTM. OF NEW CHANNEL WITH CLEAN WASHED 1" TO 2" STONE. EXTEND STONE MIN. 6" ABOVE OHWM.



STABILIZE ALL DISTURBED AREAS WITH SEED AND MULCH OR MULCH BLANKET OVER MIN. 3" TOPSOIL

PROPOSED CHANNEL SECTION

NOTES:
THE NEW CHANNEL SHALL BE COMPLETELY CONSTRUCTED BEFORE ANY WATER WILL FLOW.

NOTE: ALL "RIP-RAP" SHALL BE MICHIGAN DEPT. OF TRANSPORTATION SPEC. "PLAIN RIP-RAP" AND PLACED ON NONWOVEN GEOTEXTILE FABRIC.

REMOVE EXISTING 3' CULVERT AND BACKFILL TO TOP OF BANK

(2) 36" WILLOW TREES TO BE REMOVED

EDGE OF GRAVEL SHOULDER

PLACE RIP-RAP AT CULVERT INVERT SCOUR AREA. (cyds)

EXISTING STREAM

R.O.W.

65' MAX.

98.0 EXIST INV

99.8 MARCH EXIST.

PROPOSED STREAM

35'

100.3 INV

APPROX. 390' PROPOSED STREAM RELOCATION

Existing 3' CMP SEE CULVERT CROSSING

PLACE RIP-RAP FOR ENERGY DIVERSION. APPROX. 1.9 cyds

CAUTION UNDERGROUND UTILITY APPROX. LOCATION ONLY

N

SITE PLAN

Date	Revisions

Proposed Work	Stream Relocation
Waterway	Watson Drain
Sec., Town, Range	T06N R03W Sections 16 and 21
Twp., Co., State	Riley Township, River County

US Army Corps of Engineers (USACE) Outlet Pipe @ Watson Drain Michigan Department of Environmental Quality (MDEQ) DEQ

10 PROJECTS IMPACTING WETLANDS OR FLOODPLAINS OR LOCATED ON AN INLAND LAKE OR STREAM OR A GREAT LAKE

- Check boxes A through N that may be applicable to your project and provide the requested information.
- If your project may affect wetlands, also complete Section 12. If your project may impact regulated *floodplains*, also complete Section 13.
- Provide an overall site plan showing existing lakes, streams, wetlands, and other water features; existing *structures*; and the location of all proposed *structures*, land change activities and *soil erosion and sedimentation control measures*. Review sample drawings for guidance in completing site-specific drawings for your project.
- Some projects on the Great Lakes require an application for conveyance prior to Joint Permit Application completeness.
- On a Great Lake use IGLD 85 ☐ surveyed ☐ converted from observed still water elevation. On inland waters, ☐ NGVD 29 ☐ local datum ☐ other
- Observed water elevation (ft) , date of observation (M/D/Y) / /

☐ **A. PROJECTS REQUIRING FILL** (See All Sample Drawings)

- To calculate volume in cubic yards (cu yd), multiply the average length in feet (ft) times the average width (ft) times the average depth (ft) and divide by 27.
- Attach both plan and *cross-section* views to scale showing maximum and average fill dimensions.

(Check all that apply) ☐ *floodplain* fill ☐ wetland fill ☐ *riprap* ☐ *seawall, bulkhead,* or *revetment* ☐ bridge or culvert ☐ boat launch ☐ off-shore swim area ☐ beach sanding ☐ boatwell ☐ crib *dock* ☐ other

Fill dimensions (ft) Length width maximum depth	Total fill volume (cu yd)	Maximum water depth in fill area (ft)

Type of clean fill ☐ pea stone ☐ sand ☐ gravel ☐ wood chips ☐ other	Will *filter fabric* be used under proposed fill? ☐ No ☐ Yes (If Yes, type)

Source of clean fill ☐ on-site, If on-site, show location on site plan ☐ commercial ☐ other, If other, attach description of location

Fill will extend feet into the water from the *shoreline* and *upland* feet out of the water.	Fill volume below OHWM (cu yd)

☐ **B. PROJECTS REQUIRING DREDGING OR EXCAVATION** (For dredging projects see Sample Drawing 7, for excavation see other applicable Sample Drawings)

- To calculate volume in cubic yards (cu yd), multiply the average length in feet (ft) times the average width (ft) times the average depth (ft) and divide by 27.
- Attach both plan and *cross-section* views to scale showing maximum and average dredge or excavation dimensions.
- The applicant will be notified if sediment sampling is required.

(Check all that apply) ☐ *floodplain* excavation ☐ wetland dredge or draining ☐ *seawall, bulkhead, or revetment* ☐ navigation ☐ *boat well* ☐ boat launch ☐ other

Total dredge/excavation volume (cu yd)	Dimensions length width depth	Dredge/excavation volume below OHWM (cu yd)	Method and equipment for dredging

Has proposed dredge material been tested for contaminants? ☐ No ☐ Yes (If Yes, attach testing results)	Will dredged or excavated spoils be placed ☐ on-site ☐ off-site. Attach a detailed disposal area site plan, location map. If dispose off site, provide address and letter of authorization.

Has this same area been previously dredged? ☐ No ☐ Yes (If Yes, provide date and permit number, if available) / / /
If Yes, are you proposing to enlarge the previously dredged area ☐ No ☐ Yes

Is long-term maintenance dredging planned? ☐ No ☐ Yes (If Yes, when and how much?)

☒ **C. PROJECTS REQUIRING RIPRAP** (See Sample Drawings 2, 3, 8, 12, 14, 17, 22, and 23. Others may apply)

Riprap waterward of the ☐ shoreline OR ☒ *ordinary high water mark*	Dimensions (ft) length 5 width 20 depth 1.5	Volume(cu yd) 5.6
Riprap landward of the ☐ *shoreline* OR ☒ *ordinary high water mark*	Dimensions length 30 width 20 depth 0.75	Volume(cu yd) 16.6

Type of *riprap* ☒ field stone ☐ angular rock ☐ other	Will *filter fabric* be used under proposed *riprap*? ☐ No ☒ Yes (If Yes, type) geotextile

☐ **D. SHORE PROTECTION PROJECTS** (See Sample Drawings 2, 3, and 17)

(check all that apply) ☐ *riprap* – length (ft.) ☐ *seawall/bulkhead* – length (ft.) ☐ *revetment* – length (ft.)	Distances of project from both property lines (ft)

☐ **E. DOCK - PIER – MOORING PILINGS** (See Sample Drawing 10)

Type ☐ open pile ☐ filled ☐ crib	*Seasonal structure*? ☐ No ☐ Yes
Proposed *structure* dimensions (ft) length width	Dimensions of nearest adjacent *structures* (ft) length width

☐ **F. BOAT WELL** (No Sample Drawing available)

Type of bank stabilization ☐ wood ☐ steel ☐ concrete ☐ vinyl ☐ *riprap* ☐ other

Boat well dimensions (ft) Length width depth	Number of boats
Volume of backfill behind sidewall stabilization (cu yd)	Distances of *boat well* from adjacent property lines (ft)

☐ **G. BOAT LAUNCH** (No Sample Drawing available) (check all that apply) ☐ new ☐ existing ☐ public ☐ private ☐ commercial ☐ replacement

Proposed overall boat launch dimensions (ft) length width depth	Type of material ☐ concrete ☐ wood ☐ stone ☐ other
Existing overall boat launch dimensions (ft) Length width depth	Boat launch dimensions (ft) below *ordinary high water mark* Length width depth

Distances of launch from both property lines (ft)	Number of skid *piers*	Skid *pier* dimensions (ft) width length

☐ **H. BOAT HOIST** (No Sample Drawing available)

(Check all that apply) ☐ *seasonal* ☐ permanent ☐ cradle ☐ side lifter ☐ other	located on ☐ *seawall* ☐ *dock* ☐ bottomlands

☐ **I. BOARDWALKS AND DECKS IN** ☐ **WETLANDS - OR -** ☐ **FLOODPLAINS** (See Sample Drawings 5 and 6. Provide table if necessary)

(Check all that apply) ☐ boardwalk ☐ deck	Boardwalk or deck is on ☐ fill ☐ *piling*	Dimensions (ft) length width

US Army Corps of Engineers (USACE) Outlet Pipe@ Watson Drain Michigan Department of Environmental Quality (MDEQ) DEQ

10 Continued - PROJECTS IMPACTING WETLANDS OR FLOODPLAINS OR LOCATED ON AN INLAND LAKE OR STREAM OR A GREAT LAKE

☐ **J. INTAKE PIPES** (See Sample Drawing 16) ☒ **OUTLET PIPES** (See Sample Drawing 22)

Type ☐ headwall ☐ end section ☒ pipe ☐ other

If outlet pipe, discharge is to ☐ wetland ☐ *inland lake* ☒ stream, drain, or river ☐ Great Lake ☐ other

Dimensions of headwall OR end section (ft) length 8' width 4' depth 4'

Number of pipes 1

Pipe diameters and invert elevations 48" 3' above stream bottom

☐ **K. MOORING AND NAVIGATION BUOYS** (No Sample Drawing available)

- Provide an overall site plan showing the distances between each buoy, distances from the shore to each buoy, and depth of water at each buoy in feet.
- Provide cross-section drawing(s) showing anchoring system(s) and dimensions.

Number of buoys | Type of anchor system | Purpose of buoy ☐ mooring ☐ navigation ☐ swimming

Dimensions of buoys (ft) width height

Do you own the property along the *shoreline*? ☐ No ☐ Yes
If No, you must provide an authorization letter from the property owner(s)

☐ **L. GROINS** (No Sample Drawing available)

- Provide an overall site plan showing the distances (ft) of the outermost *groins* from the property lines, distances between *groins*, length and width of each *groin*, and the distance from the existing toe of the bluff to the lakeward end of the *groins*.
- If existing *groins* are located on adjacent properties, provide distances (ft) from closest neighboring *groin* to your property lines on the site plan. Provide *cross-section* views showing the length and height of each *groin* and the height of *groin* ends above the observed water level (date and time). If step down type, show the height of each section above the observed water level.

Number of *groins* | Type of *groin* ☐ steel ☐ wood ☐ other | Will *groin* be placed on a foundation? ☐ No ☐ Yes (If Yes, dimensions of foundation (ft)) length width height

☐ **M. FENCES IN WETLANDS, STREAMS, OR FLOODPLAINS** (No Sample Drawing available)

- Provide an overall site plan showing the proposed fencing through wetlands, streams, or *floodplains*.
- Provide drawing of fence profile showing the design, dimension, post spacing, board spacing, and distance from ground to bottom of fence (if in a *floodplain*).

(check all that apply) ☐ wetlands ☐ streams ☐ *floodplains* | Total length (ft) of fence through wetlands streams *floodplains* | Fence height (ft) | Fence type and material

☐ **N. OTHER** - e.g., *structure* removal, *marine railway*, *low sand trap wall*, *breakwater*, and structural foundations in wetlands or *floodplains*

11 EXPANSION OF AN EXISTING OR CONSTRUCTION OF A NEW LAKE OR POND (See Sample Drawings 4 and 15)

Which best describes your proposed waterbody use (check all that apply)
☐ wildlife ☐ *stormwater retention basin* ☐ *stormwater detention basin* ☐ recreation ☐ wastewater basin ☐ other

Water source for lake/pond
☐ groundwater ☐ natural springs ☐ *Inland Lake or Stream* ☐ stormwater runoff ☐ pump ☐ sewage ☐ other

Location Of the lake/basin/pond ☐ floodplain ☐ wetland ☐ upland

Will project involve construction of a *dam*, dike, outlet control *structure*, or *spillway*? ☐ No ☐ Yes (If Yes, complete Section 17)

12 ACTIVITIES THAT MAY IMPACT WETLANDS (See Sample Drawings 8 & 9)

- For information on the MDEQ's *Wetland Assessment* Program, visit the LWMD website or call 517-373-1170.

(check all that apply) ☐ fill (Section 10A) ☐ dredge or excavation (Section 10B) ☐ boardwalk or deck (Section 10I) ☐ dewatering ☐ fences (Section 10M) ☐ bridges and culverts (Section 14) ☐ draining surface water ☐ other

Has a professional wetland delineation been conducted for this parcel? ☐ No ☐ Yes (If Yes, provide a copy; if federal method was used, supply data sheets)

Applicant purchased property ☐ before OR ☐ after October 1, 1980.

Is there a recorded DEQ easement on the property? ☐ No ☐ Yes (If Yes, provide the number)

Has the MDEQ conducted a *wetland assessment* for this parcel? ☐ No ☐ Yes (If Yes, provide a copy)

Describe the wetland impacts, proposed use or development, and efforts to avoid/minimize impacts. Describe the wetland alternatives and provide the type and amount of mitigation proposed if more than 1/3 acre is to be impacted.

Is any grading or mechanized land clearing proposed? ☐ No ☐ Yes (If Yes, show locations on site plan)

Has any of the proposed grading or mechanized land clearing been completed? ☐ No ☐ Yes (If Yes, label and show locations on site plan)

- Complete the wetland dredge and wetland fill dimension information for each impacted wetland area.
- Attach additional sheets if necessary and label the impacted wetland areas on a site plan drawn to scale. Attach at least one typical *cross-section* for each wetland dredge and/or fill area. Also complete Section 10A for fill and Section 10B for dredge or excavation activities.
- If dredge material will be disposed of on site, show the location on site plan in an *upland* area and include *soil erosion and sedimentation control measures*.

Wetland dredge dimensions	maximum length (ft)	maximum width (ft)	dredge area ☐ acres ☐ sq ft	average depth (ft)	dredge volume (cu yd)
Wetland fill dimensions	maximum length (ft)	maximum width (ft)	fill area ☐ acres ☐ sq ft	average depth (ft)	fill volume (cu yd)

Total wetland dredge area ☐ acres ☐ sq ft | Total wetland dredge volume (cu yd)

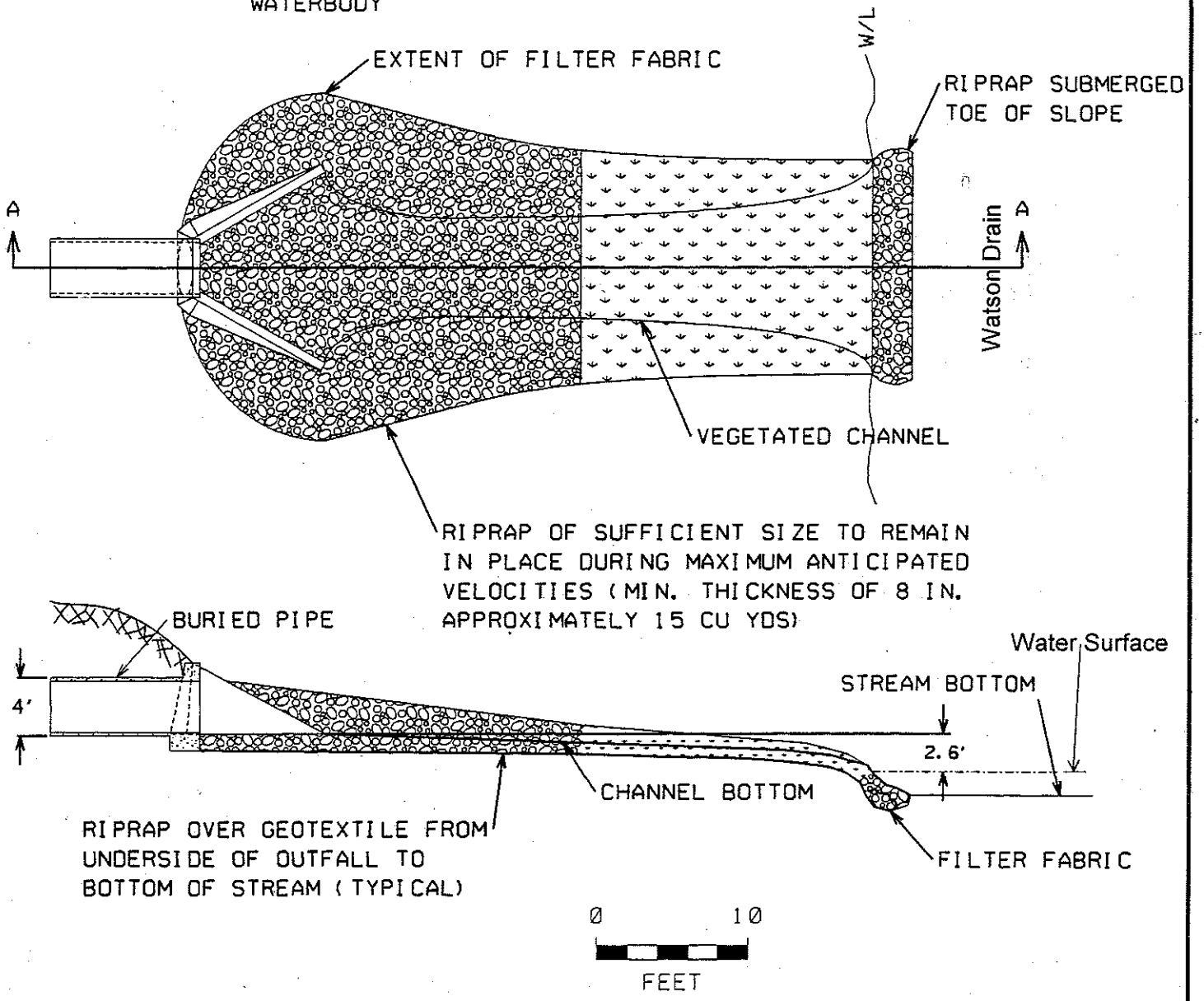
Total wetland fill area ☐ acres ☐ sq ft | Total wetland fill volume (cu yd)

The proposed project will be serviced by ☐ public sewer ☐ private septic system (If septic system, show existing and new or expanded system on plans)

If septic system, has application been made to the County Health Department for a permit? ☐ No ☐ Yes

If Yes, has permit been issued? ☐ No ☐ Yes (If Yes, provide a copy)

WHERE POSSIBLE THE OUTLET SHOULD BE SET BACK AWAY FROM THE BANK ALLOWING THE STORMWATER TO PASS THROUGH A VEGETATED CHANNEL BEFORE ENTERING THE WATERBODY



CROSS-SECTION A - A

PROPOSED OUTLET PIPE
Applicant: Spalding Design Waterway: Watson Drain Township: Riley County: River Sections: 16 and 21 Town and Range: 6N3W

US Army Corps of Engineers (USACE) Bridge Replacement @ Bad Creek Michigan Department of Environmental Quality (MDEQ) DEQ

10 PROJECTS IMPACTING WETLANDS OR FLOODPLAINS OR LOCATED ON AN INLAND LAKE OR STREAM OR A GREAT LAKE

- Check boxes A through N that may be applicable to your project and provide the requested information.
- If your project may affect wetlands, also complete Section 12. If your project may impact regulated *floodplains*, also complete Section 13.
- Provide an overall site plan showing existing lakes, streams, wetlands, and other water features; existing *structures*; and the location of all proposed *structures*, land change activities and *soil erosion and sedimentation control measures*. Review sample drawings for guidance in completing site-specific drawings for your project.
- Some projects on the Great Lakes require an application for conveyance prior to Joint Permit Application completeness.
- On a Great Lake use IGLD 85 ☐ surveyed ☐ converted from observed still water elevation. On inland waters, ☐ NGVD 29 ☐ local datum ☐ other
- Observed water elevation (ft) 104 date of observation (M/D/Y) 12/2/2005

☒ A. PROJECTS REQUIRING FILL (See All Sample Drawings)

- To calculate volume in cubic yards (cu yd), multiply the average length in feet (ft) times the average width (ft) times the average depth (ft) and divide by 27.
- Attach both plan and *cross-section* views to scale showing maximum and average fill dimensions.

(Check all that apply) ☒ *floodplain* fill ☒ wetland fill ☒ *riprap* ☐ *seawall, bulkhead,* or *revetment* ☐ bridge or culvert
☐ boat launch ☐ off-shore swim area ☐ beach sanding ☐ boatwell ☐ crib *dock* ☒ other OHWM

Fill dimensions (ft)	Total fill volume (cu yd)	Maximum water
Length 5 width 3 maximum depth 2' OHWM	225.9 Total	depth in fill area (ft) 2

Type of clean fill ☐ pea stone ☒ sand ☐ gravel ☐ wood chips ☐ other
Will *filter fabric* be used under proposed fill? ☒ No ☐ Yes (If Yes, type)

Source of clean fill ☐ on-site, If on-site, show location on site plan ☒ commercial ☐ other, If other, attach description of location

Fill will extend 3 feet into the water from the *shoreline* and *upland* 2 feet out of the water. Fill volume below OHWM (cu yd) 1.1

☒ B. PROJECTS REQUIRING DREDGING OR EXCAVATION (For dredging projects see Sample Drawing 7, for excavation see other applicable Sample Drawings)

- To calculate volume in cubic yards (cu yd), multiply the average length in feet (ft) times the average width (ft) times the average depth (ft) and divide by 27.
- Attach both plan and *cross-section* views to scale showing maximum and average dredge or excavation dimensions.
- The applicant will be notified if sediment sampling is required.

(Check all that apply) ☒ *floodplain* excavation ☐ wetland dredge or draining ☐ *seawall, bulkhead, or revetment*
☐ navigation ☐ *boat well* ☐ boat launch ☒ other OHWM

Total dredge/excavation volume (cu yd)	Dimensions	Dredge/excavation volume below OHWM (cu yd)	Method and equipment for dredging
51.1	length 5 width 3 depth 2 OHWM	1.1	Backhoe

Has proposed dredge material been tested for contaminants? ☒ No ☐ Yes (If Yes, attach testing results)
Will dredged or excavated spoils be placed ☐ on-site ☒ off-site. Attach a detailed disposal area site plan, location map. If dispose off site, provide address and letter of authorization.

Has this same area been previously dredged? ☒ No ☐ Yes (If Yes, provide date and permit number, if available) / / /
If Yes, are you proposing to enlarge the previously dredged area ☐ No ☐ Yes

Is long-term maintenance dredging planned? ☒ No ☐ Yes (If Yes, when and how much?)

☒ C. PROJECTS REQUIRING RIPRAP (See Sample Drawings 2, 3, 8, 12, 14, 17, 22, and 23. Others may apply)

Riprap waterward of the ☐ shoreline OR ☒ *ordinary high water mark*	Dimensions (ft) length 36 width 2 depth 1	Volume(cu yd) 2.7
Riprap landward of the ☐ *shoreline* OR ☒ *ordinary high water mark*	Dimensions length 100 width 2 depth 1	Volume(cu yd) 7.4

Type of *riprap* ☐ field stone ☒ angular rock ☐ other
Will *filter fabric* be used under proposed *riprap*? ☐ No ☒ Yes (If Yes, type) Geotextile

☐ D. SHORE PROTECTION PROJECTS (See Sample Drawings 2, 3, and 17)

(check all that apply) ☐ *riprap* – length (ft.) ☐ *seawall/bulkhead* – length (ft.) ☐ *revetment* – length (ft.)
Distances of project from both property lines (ft)

☐ E. DOCK - PIER – MOORING PILINGS (See Sample Drawing 10)

Type ☐ open pile ☐ filled ☐ crib *Seasonal structure*? ☐ No ☐ Yes
Proposed *structure* dimensions (ft) length width Dimensions of nearest adjacent *structures* (ft) length width

☐ F. BOAT WELL (No Sample Drawing available)

Type of bank stabilization ☐ wood ☐ steel ☐ concrete ☐ vinyl ☐ *riprap* ☐ other

Boat well dimensions (ft)	Number of boats
Length width depth	
Volume of backfill behind sidewall stabilization (cu yd)	Distances of *boat well* from adjacent property lines (ft)

☐ G. BOAT LAUNCH (No Sample Drawing available) (check all that apply) ☐ new ☐ existing ☐ public ☐ private ☐ commercial ☐ replacement

Proposed overall boat launch dimensions (ft) length width depth	Type of material ☐ concrete ☐ wood ☐ stone ☐ other
Existing overall boat launch dimensions (ft) Length width depth	Boat launch dimensions (ft) below *ordinary high water mark* Length width depth

Distances of launch from both property lines (ft)	Number of skid *piers*	Skid *pier* dimensions (ft) width length

☐ H. BOAT HOIST (No Sample Drawing available)

(Check all that apply) ☐ *seasonal* ☐ permanent ☐ cradle ☐ side lifter ☐ other
located on ☐ *seawall* ☐ *dock* ☐ bottomlands

☐ I. BOARDWALKS AND DECKS IN ☐ WETLANDS - OR - ☐ FLOODPLAINS (See Sample Drawings 5 and 6. Provide table if necessary)

(Check all that apply) ☐ boardwalk ☐ deck Boardwalk or deck is on ☐ fill ☐ *piling* Dimensions (ft) length width

Bridge Replacement @ Bad Creek

13 FLOODPLAIN ACTIVITIES (See Sample Drawing 5. Others may apply.)

- Attach additional sheets with the requested information when multiple *floodplain* activities are included in this application.

(check all that apply) ☒ fill ☒ excavation ☐ other

Site is 6 feet above ☐ *ordinary high water mark* (OHWM) OR ☒ observed water level. Date of observation (M/D/Y) 12/03/2005

Fill volume below the 100-year floodplain elevation (cu yd) 205	Compensating cut volume below the 100-year floodplain elevation (cu yd) 50

14 BRIDGES AND CULVERTS (Including Foot and Cart Bridges)

- Provide detailed site-specific drawings of existing and proposed *Plan View* (Sample Drawing 14A), Elevation View (Sample Drawing 14B), Stream and *Floodplain Cross-Section* (Sample Drawing 14C), Stream Profile (Sample Drawing 14D) and *Floodplain* Fill (Sample Drawing 5) at a scale adequate for detailed review.
- Provide the requested information that applies to your project. If there is not an existing *structure*, leave the "Existing" column blank.
- If you choose to have a Licensed Professional Engineer "certify" that your project will not cause a "*harmful interference*" for a range of flood discharges up to and including the 100-year flood discharge, then you must use the "Required Certification Language." You may request a copy by phone, email, or mail. A hydraulic report supporting this certification may also be required.
- Attach additional sheets with the requested information when multiple crossings are included in this application.

		Existing	Proposed			Existing	Proposed
Culvert type (box, circular, arch) and material (corrugated metal, timber, concrete, etc.)				Bridge span (length perpendicular to stream) OR culvert ☐ width ☐ diameter (ft)		18	38
Bridge type (concrete box beam, timber, concrete I-beam, etc.)		Concrete box beam	Concrete box beam	Bridge width (parallel to stream) OR culvert length (ft)		18	38
Entrance design (projecting, mitered, wingwalls, etc.)		Wingwalls	Wingwalls	Bridge *rise* (from bottom of beam to streambed) OR Culvert *rise* (from top of culvert to streambed) (ft)		5	6
Total *structure waterway opening* above streambed (sq ft)		90	228				
☐ elevation of culvert crown	Upstream	109	110	Higher elevation of ☐ culvert invert OR	Upstream	103	103
☒ bottom of bridge beam (ft)	Downstream	109	110	☒ streambed within culvert (ft)	Downstream	102.9	102.9
Elevation of road grade at *structure* (ft)		112.5	113.8	Distance from low point of road to mid-point of bridge crossing (ft)		300	300
Elevation of low point in road (ft)		112.2	113.5				

Cross-sectional area of primary channel (sq ft) (See Sample Drawing 14C) 154.8	Average stream width at OHWM outside the influence of the structure (ft)	Upstream 18 Downstream 18

Reference datum used (show on plans with description) ☐ *NGVD 29* ☐ *IGLD 85* (Great Lakes coastal areas) ☒ local

High water elevation – describe reference point and highest known water level above or below reference point and date of observation.

15 STREAM, RIVER, OR DRAIN CONSTRUCTION ACTIVITIES (No sample drawing available)

Complete Section 10A for fill, Section 10B for dredge or excavation, and Section10C for *riprap* activities.

- If side casting or other proposed activities will impact wetlands or *floodplains*, complete Sections 12 and 13, respectively.
- Provide an overall site plan showing existing lakes, streams, wetlands, and other water features; existing *structures*; and the location of all proposed *structures* and land change activities. Provide *cross-section* (elevation) drawings necessary to clearly show existing and proposed conditions. Be sure to indicate drawing scales.
- For activities on legally established county drains, provide original design and proposed dimensions and elevations.

(check all that apply) ☐ maintenance ☐ improvement ☐ relocation ☐ enclosure ☐ new drain ☐ wetlands ☐ other

Dimensions (ft) of existing stream/drain channel to be worked on. length width depth

Dimensions (ft) of new, relocated, or enclosed stream/drain channel. length width depth	Volume of Dredge/ excavation (cu yds)
Existing channel average water depth in a normal year (ft)	Proposed side *slopes* (vertical / horizontal)

How will *slopes* and bottom be stabilized?

Will old/enclosed stream channel be backfilled to top of bank grade? ☐ No ☐ Yes	Length of channel to be abandoned (ft)	Volume of fill (cu yds)

If an enclosed *structure* is proposed, check type ☐ concrete ☐ corrugated metal ☐ plastic ☐ other
Dimensions of the structure size length volume of fill

Will spoils be disposed of on site? ☐ No ☐ Yes (If Yes, show location of spoils on site plan in an *upland* area.)

Reference datum used (show on plans with description) ☐ *NGVD 29* ☐ *IGLD 85* (Great Lakes coastal areas) ☐ local

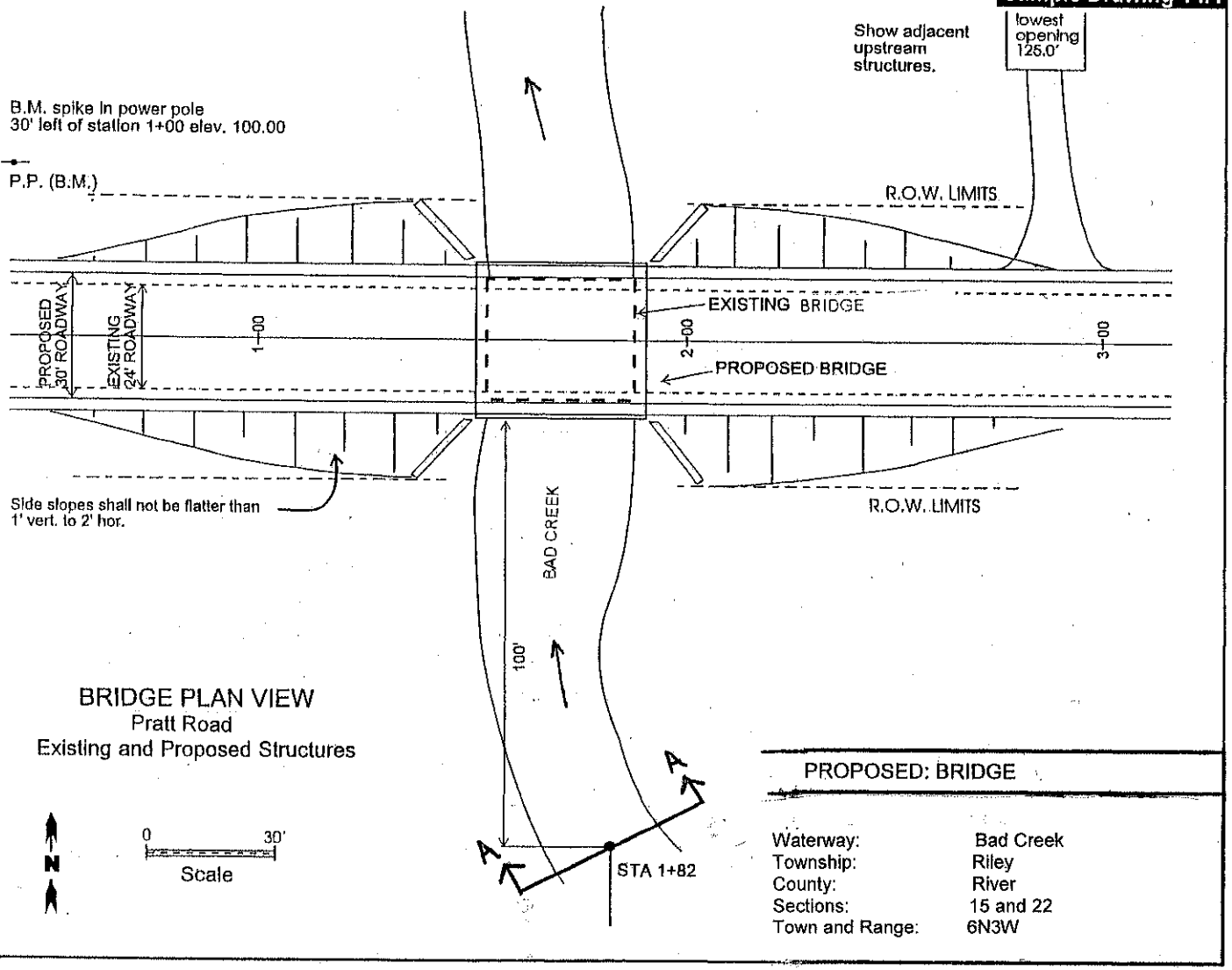
Bridge Replacement

Proposed Bridges and Culverts:

Complete **Section 14** and **Sections 10A, 10B, 10C, 12, 13, and 15** if applicable to your project.

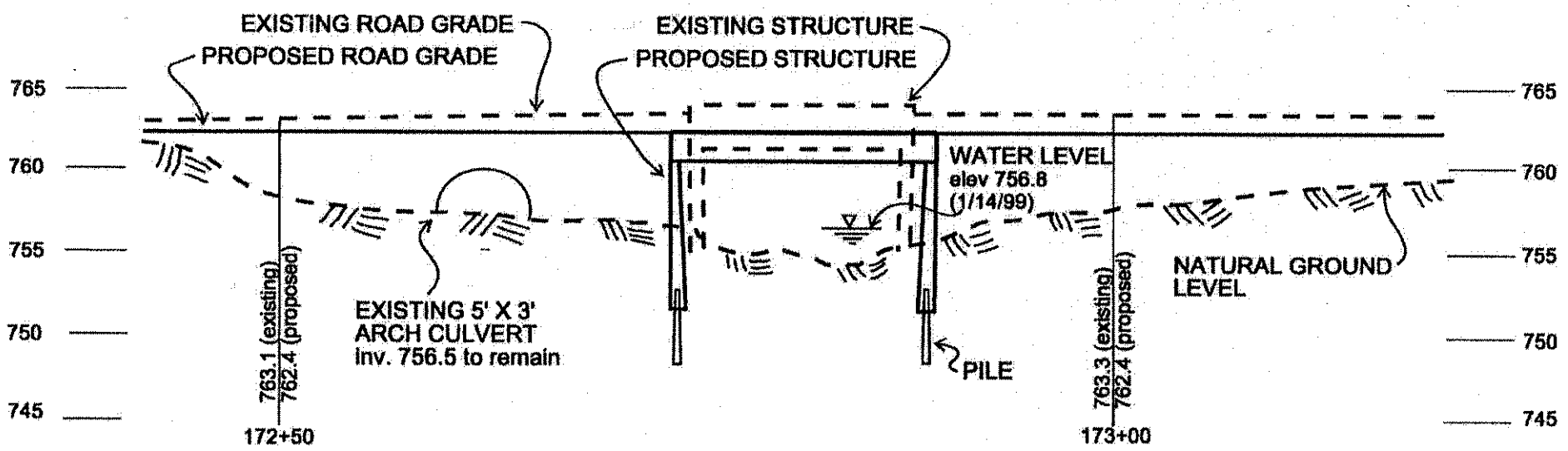
- ❑ Provide an overall site plan showing existing lakes, streams, wetlands, and other water features. Include name of waterbodies, property boundaries, and neighboring property owner information.
- ❑ Provide detailed site-specific drawings of existing **and** proposed *Plan View* (Sample Drawing 14A), Elevation View (Sample Drawing 14B), Stream and *Floodplain Cross-Sections* (Sample Drawing 14C), and Stream Profile (Sample Drawing 14D) adequate for detailed review.
- ❑ If your project includes *floodplain* fill complete **Section 13** and include a site-specific drawing (See Sample Drawing 5).

Sample Drawing 14A



Bridge or Culvert Plan View

- ❑ Existing and proposed *structures* and approaches.
- ❑ Property boundaries and or right-of-ways (ROW).
- ❑ Description of reference point and datum used (NGVD 29, IGLD 85 or local).
- ❑ Location of *cross-section* or elevation views.
- ❑ *Soil erosion and sedimentation control measures.*



BRIDGE ELEVATION VIEW
Existing and Proposed Structures

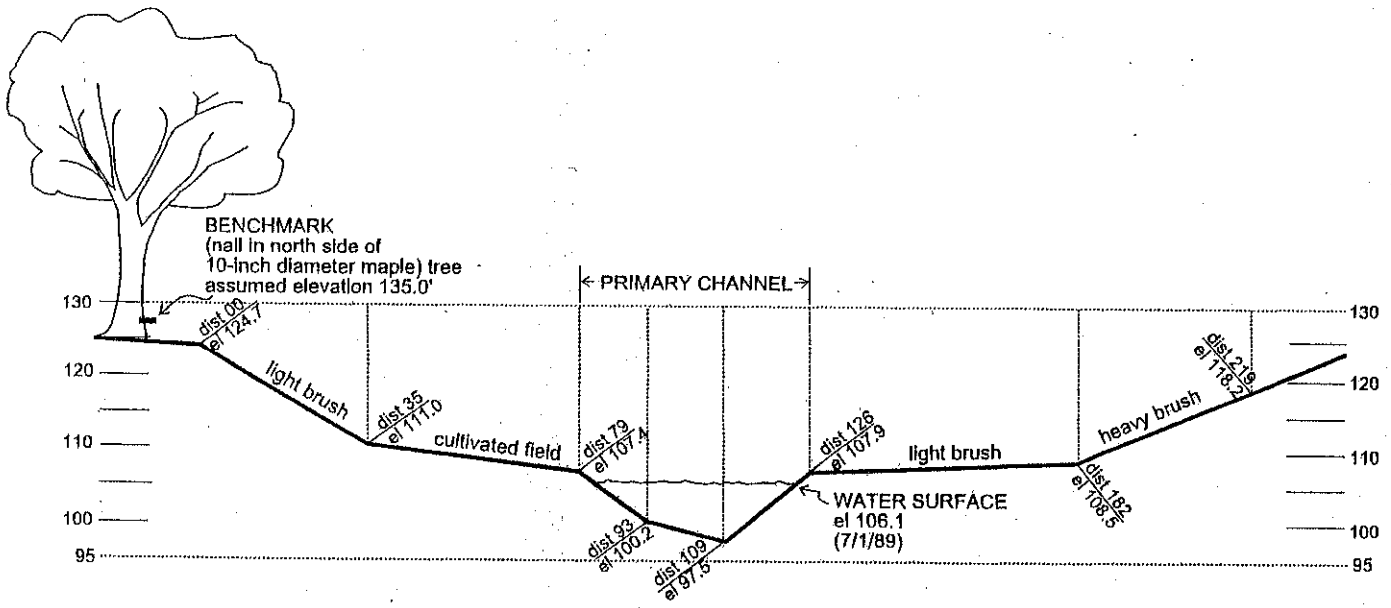
0 — 10'

Scale

Elevations in Feet

PROPOSED: BRIDGE OR CULVERT
APPLICANT: River County Road Commission
WATERWAY: Bad Creek
CITY/TOWNSHIP: Riley City/ Riley Township
COUNTY: River
NUMBER OF SHEETS: ___ OF ___
DATE:

Sample Drawing 14C



CROSS-SECTION A - A
(Looking Downstream)

Cross-section downstream of proposed replacement structure
typical to the watercourse involved
and taken perpendicular to flood flows

Scale

0 20'
vertical

0 30'
horizontal

Elevations in Feet.
el = grade point elevation in reference to the assumed benchmark

EXISTING & PROPOSED CROSS-SECTION

Waterway:	Bad Creek
Township:	Riley
County:	River
Sections:	15 and 22
Town and Range:	6N3W

Stream and *Floodplain Cross-Section* View

- ❑ All proposed projects need to provide the channel dimensions (bank elevations, top width, bottom width, if channel bottom is horizontal).
- ❑ Description of reference point and datum used (NGVD 29,IGLD 85, or local).
- ❑ Highest known and observed water elevations (ft) and dates of observations (M/D/Y).
- ❑ *100-year floodplain* elevation (if known).
- ❑ Descriptions of overbank vegetative cover within the *floodplain*.
- ❑ Elevation of *ordinary high water mark* (OHWM).
- ❑ If upstream channel and overbank dimensions and/or vegetative cover differ significantly from the downstream conditions also

10 Continued - PROJECTS IMPACTING WETLANDS OR FLOODPLAINS OR LOCATED ON AN INLAND LAKE OR STREAM OR A GREAT LAKE

☐ **J. INTAKE PIPES** (See Sample Drawing 16) ☐ **OUTLET PIPES** (See Sample Drawing 22)

Type ☐ headwall ☐ end section ☐ pipe ☐ other

If outlet pipe, discharge is to ☐ wetland ☐ *inland lake* ☐ stream, drain, or river ☐ Great Lake ☐ other

Dimensions of headwall OR end section (ft) length width depth

Number of pipes

Pipe diameters and invert elevations

☐ **K. MOORING AND NAVIGATION BUOYS** (No Sample Drawing available)

- Provide an overall site plan showing the distances between each buoy, distances from the shore to each buoy, and depth of water at each buoy in feet.
- Provide cross-section drawing(s) showing anchoring system(s) and dimensions.

Number of buoys

Type of anchor system

Purpose of buoy ☐ mooring ☐ navigation ☐ swimming

Dimensions of buoys (ft) width height

Do you own the property along the *shoreline*? ☐ No ☐ Yes
If No, you must provide an authorization letter from the property owner(s)

☐ **L. GROINS** (No Sample Drawing available)

- Provide an overall site plan showing the distances (ft) of the outermost *groins* from the property lines, distances between *groins*, length and width of each *groin*, and the distance from the existing toe of the bluff to the lakeward end of the *groins*.
- If existing *groins* are located on adjacent properties, provide distances (ft) from closest neighboring *groin* to your property lines on the site plan. Provide *cross-section* views showing the length and height of each *groin* and the height of *groin* ends above the observed water level (date and time). If step down type, show the height of each section above the observed water level.

Number of *groins*

Type of *groin* ☐ steel ☐ wood ☐ other

Will *groin* be placed on a foundation? ☐ No ☐ Yes (If Yes, dimensions of foundation (ft)) length width height

☐ **M. FENCES IN WETLANDS, STREAMS, OR FLOODPLAINS** (No Sample Drawing available)

- Provide an overall site plan showing the proposed fencing through wetlands, streams, or *floodplains*.
- Provide drawing of fence profile showing the design, dimension, post spacing, board spacing, and distance from ground to bottom of fence (if in a *floodplain*).

(check all that apply) ☐ wetlands ☐ streams ☐ *floodplains*

Total length (ft) of fence through wetlands streams *floodplains*

Fence height (ft)

Fence type and material

☐ **N. OTHER** - e.g., *structure* removal, *marine railway*, *low sand trap wall, breakwater*, and structural foundations in wetlands or *floodplains*

11 EXPANSION OF AN EXISTING OR CONSTRUCTION OF A NEW LAKE OR POND (See Sample Drawings 4 and 15)

Which best describes your proposed waterbody use (check all that apply)
☐ wildlife ☐ *stormwater retention basin* ☐ *stormwater detention basin* ☐ recreation ☐ wastewater basin ☐ other

Water source for lake/pond
☐ groundwater ☐ natural springs ☐ *Inland Lake or Stream* ☐ stormwater runoff ☐ pump ☐ sewage ☐ other

Location Of the lake/basin/pond ☐ floodplain ☐ wetland ☐ upland

Will project involve construction of a *dam*, dike, outlet control *structure*, or *spillway*? ☐ No ☐ Yes (If Yes, complete Section 17)

12 ACTIVITIES THAT MAY IMPACT WETLANDS (See Sample Drawings 8 & 9)

- For information on the MDEQ's *Wetland Assessment* Program, visit the LWMD website or call 517-373-1170.

(check all that apply) ☒ fill (Section 10A) ☐ dredge or excavation (Section 10B) ☐ boardwalk or deck (Section 10I) ☐ dewatering ☐ fences (Section 10M) ☐ bridges and culverts (Section 14) ☐ draining surface water ☐ other

Has a professional wetland delineation been conducted for this parcel? ☒ No ☐ Yes (If Yes, provide a copy; if federal method was used, supply data sheets)

Applicant purchased property ☐ before OR ☒ after October 1, 1980.

Is there a recorded DEQ easement on the property? ☒ No ☐ Yes (If Yes, provide the number)

Has the MDEQ conducted a *wetland assessment* for this parcel? ☒ No ☐ Yes (If Yes, provide a copy)

Describe the wetland impacts, proposed use or development, and efforts to avoid/minimize impacts. Describe the wetland alternatives and provide the type and amount of mitigation proposed if more than 1/3 acre is to be impacted. To widen the road.

Is any grading or mechanized land clearing proposed? ☐ No ☒ Yes (If Yes, show locations on site plan)

Has any of the proposed grading or mechanized land clearing been completed? ☒ No ☐ Yes (If Yes, label and show locations on site plan)

- Complete the wetland dredge and wetland fill dimension information for each impacted wetland area.
- Attach additional sheets if necessary and label the impacted wetland areas on a site plan drawn to scale. Attach at least one typical *cross-section* for each wetland dredge and/or fill area. Also complete Section 10A for fill and Section 10B for dredge or excavation activities.
- If dredge material will be disposed of on site, show the location on site plan in an *upland* area and include *soil erosion and sedimentation control measures*.

	maximum length (ft)	maximum width (ft)	dredge area	average depth (ft)	dredge volume (cu yd)
Wetland dredge dimensions	0	0	☒ acres ☐ sq ft 0	0	0
	maximum length (ft)	**maximum width (ft)**	**fill area**	**average depth (ft)**	**fill volume (cu yd)**
Wetland fill dimensions	A 90 B 50	A 5 B 3	☒ acres ☐ sq ft A 0.010 B 0.003	A 1.0 B 0.5	A 8.3 B 1.4

Total wetland dredge area ☐ acres ☐ sq ft 0

Total wetland dredge volume (cu yd) 0

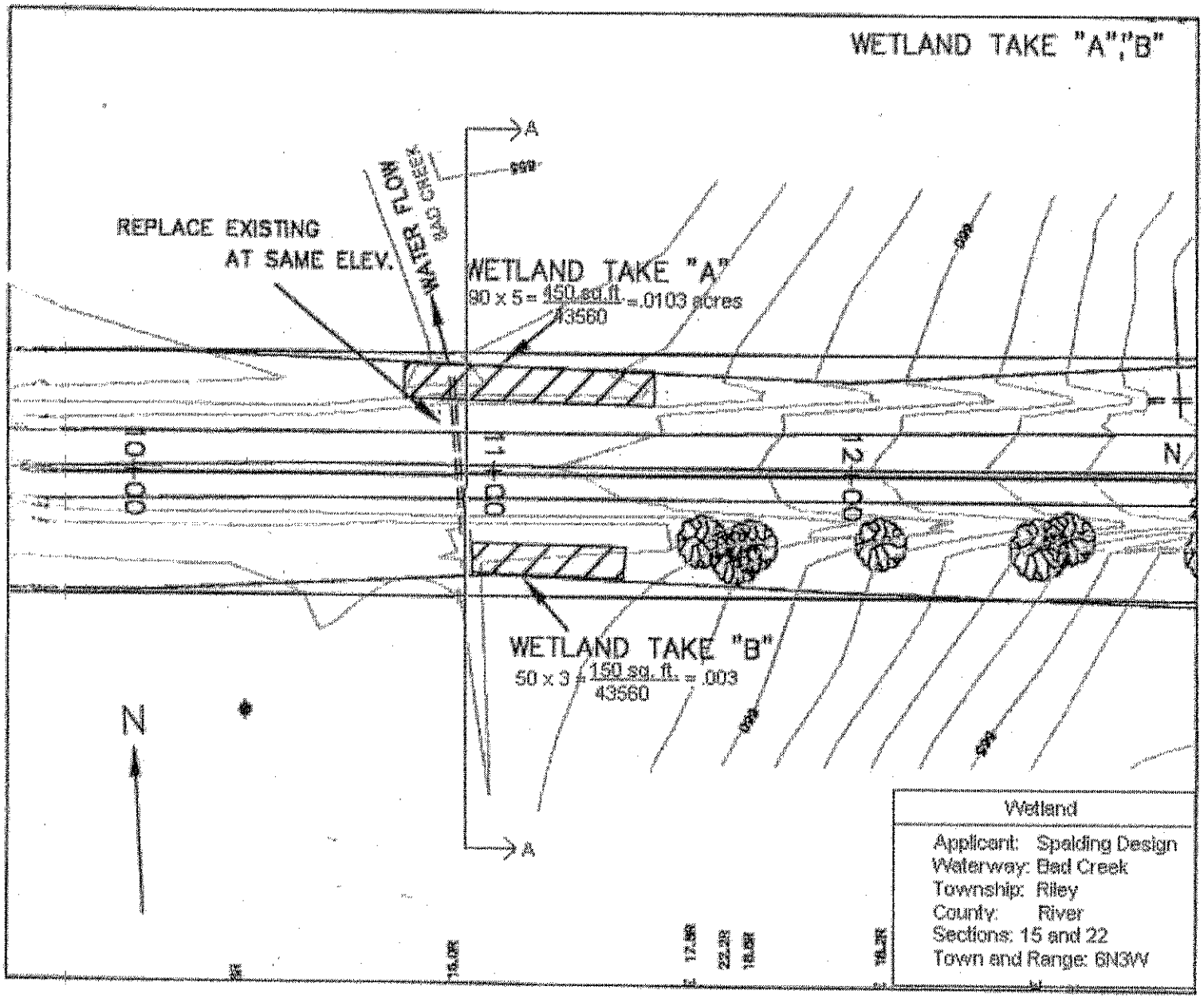
Total wetland fill area ☒ acres ☐ sq ft 0.010+0.003=0.013

Total wetland fill volume (cu yd) 9.7

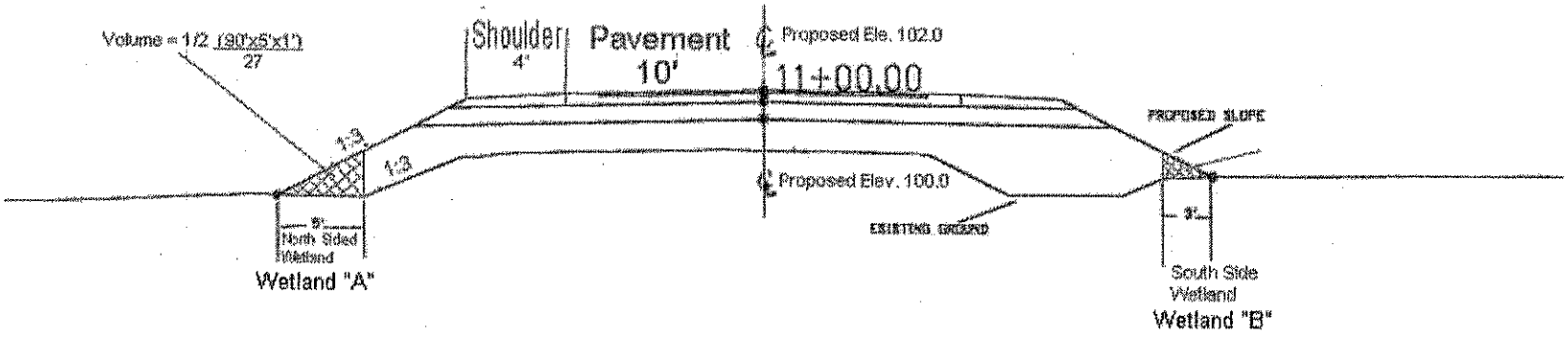
The proposed project will be serviced by ☐ public sewer ☐ private septic system (If septic system, show existing and new or expanded system on plans)

If septic system, has application been made to the County Health Department for a permit? ☐ No ☐ Yes

If Yes, has permit been issued? ☐ No ☐ Yes (If Yes, provide a copy)


WETLAND TAKE "A","B"
A
REPLACE EXISTING
AT SAME ELEV.
WATER FLOW
BAD CREEK
WETLAND TAKE "A"
30 x 5 = 150 sq. ft. = .0103 acres
43560
WETLAND TAKE "B"
50 x 3 = 150 sq. ft. = .003
43560
N
A
Wetland
Applicant: Spalding Design
Waterway: Bad Creek
Township: Riley
County: River
Sections: 15 and 22
Town and Range: 6N3W

Wetland TAKE "A", "B"



Road Cross-Section
At Wetland Area

Applicant: Spalding
Waterway: Bad Creek
Township: Riley
County: River
Sections 15 and 22
Town and Range 6N3W